

COSTING- THEORY

CHAPTER-1

Basic Concepts & Product Cost sheet

Q1. Define Cost Accounting, its advantages and limitation?

Cost Accounting:

Cost accounting is accounting for cost, aimed at providing cost data, statements and reports for the purpose of managerial decision making. Cost Accounting "is the application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and ascertainment of profitability. It includes the presentation of information derived there from for the purpose of managerial decision-making.

The term 'costing' and 'cost accounting' are many times used interchangeably. However, the scope of cost accounting is broader than that of costing which merely focuses on cost ascertainment. Following functional activities are included in the scope of cost accounting:

1. **Cost Book- keeping :** It involves maintaining complete record of all costs incurred from their incurrence to their charge to departments, products and services.
2. **Cost System :** Systems and procedures are devised for proper accounting for costs.
3. **Cost Analysis :** It involves an investigation into the causes of actual costs varying from the planned costs and fixation of responsibility for cost increases.
4. **Cost Comparisons :** Cost accounting also includes comparisons between cost from alternative technologies, cost of different products and activities, and cost of same product or service over a period of time.
5. **Cost Control :** An important function of cost accounting is utilization of cost information for exercising control. This involves an examination of each cost in the light of benefit derived from incurrence of the cost.

Importance and Advantages of Cost Accounting

The primary advantages of Cost Accounting System are as under:

- (a) **Profit Measurement and Analysis:** Costs should be accurately ascertained and matched with revenues to measure profits of a firm. Further, Cost Accounting is useful for identifying the exact causes for decrease or increase in the profit / loss of the business.
- (b) **Cost Reduction:** The application of cost reduction techniques, operations research techniques and value analysis techniques , helps in achieving the objective of economy in concern's operations. Continuous efforts are being made by the business organization for finding new and improved methods for reducing costs
- (c) **Cost Comparison and Cost Control:** Cost comparison helps in cost control. Such a comparison may be made from period to period by using the figures in respect of the same firm or of several units in an industry by employing uniform costing and inter- firm comparison methods.
- (d) **Identification of losses and inefficiencies:** A good Cost Accounting System helps in identifying unprofitable activities, losses or inefficiencies in any form, so that appropriate actions are taken. The use of Standard Costing and Variance Analysis techniques points out

the deviations from pre- determined level and thus demands suitable action to eliminate its recurrence. The cost of idle capacity can be easily worked out, when a concern is not working to full capacity,

- (e) **Financial Decision Making:** Managers can obtain relevant information from the Cost Accounting System, to serve as guides in making decisions involving financial considerations. Guidance may also be given by the Cost Accountant on various decision making issues viz. whether to purchase or manufacture a given component, whether to accept orders below cost, which machine to purchase when a number of choices are available. The use of Marginal Costing techniques helps managers in taking short-term decisions.
- (f) **Price Determination:** Cost Accounting is quite useful for price fixation. It serves as guide to test the adequacy of selling prices. The price determined may be useful for preparing estimates or filing tenders.
- (g) **Dispute and Issue-solving:** A good cost accounting system provides cost figures for the use of Government, Wage Tribunals and other bodies for dealing and solving issues like price taxation, price control tariff protection, wage level fixation.

Limitation of Cost Accounting

- (1) Cost accounting prepares cost records and reports in different depths, detail and form. Even assumptions made regarding lacks uniformity. Different organizations various costs differ.
- (2) There is arbitrariness in apportionment of overheads, allocation controllable and non-controllable, determination of joint costs, division of costs between of overhead absorption rates.
- (3) Cost accounts are prepared in addition to financial accounts. There are. number of costs, e.g. notional costs and decision making costs which do not appear in financial accounts. This necessitates reconciliation of financial profits and cost profit.
- (4) Cost accounting is only one of the means of achieving cost control, efficiency improvement and motivation. It does not by itself achieve these objectives.
- (5) Cost accounting has only a limited use in projecting future costs. It needs to be supplemented by various statistical tools.

Q2. List the objectives of Cost Accounting. (Nov 2002, 3 marks)

The primary objective of study of cost is to contribute to profitability through Cost Reduction and Cost Control. The following objectives of Cost Accounting can be identified:

- (1) **Ascertainment of cost:** This involves collection of cost information, by recording them under suitable heads of account and reporting such information on a periodical basis.
- (2) **Determination of selling price:** Selling Prices are influenced by a no of factors. However, prices cannot be fixed below cost, save in exceptional circumstances. Hence cost accounting is required for determination of proper selling price.
- (3) **Cost Control and Cost Reduction:** In the long run, higher profits can be achieved only through Cost Reduction and cost Control. These terms are discussed in detail ion a separate Chapter.

- (4) **Ascertaining the profit of each activity:** Profit of each department/ activity / product can be determined by comparing its revenue on an objective basis.
- (5) **Assisting management in decision-making:** Business decisions are taken after conducting Cost- Benefit Analysis. Hence cost and benefits of each option are analyzed and the Manager chooses the least cost option. Thus Cost Accounting and reporting system assists managers in their decision making process.

Q3. What are the essential features of a good cost Accounting system? (C.A PE 11 May 2004, Nov 2005, C.A. Inter Nov 1993)

To be successful, a good Cost Accounting System should possess the following essential features.

- (a) **Simple and easy to operate:** The system should be tailor-made, practical, simple and capable of meeting the requirement of a business concern.
- (b) **Accuracy of data:** The data to be used by Cost Accounting System should be accurate. Otherwise it may distort the output of the system
- (c) **Relevance of data:** The system should handle and report relevant data for use of managers for decision making. It should not sacrifice its utility by introducing meticulous and unnecessary, details
- (d) **Management's Role:** The top Management should have a faith in the costing system and should also provide a helping hand for its development and success.
- (e) **Participative Role of executives:** Necessary cooperation and participation of executives from various departments of the concern is essential for developing a good system of cost Accounting.
- (f) **Cost-effective:** The cost of installing and operating the system should justify the results. The benefits from the system should exceed the amount to be spent on it.
- (g) **Smooth implementation:** The system should be effectively implemented. A carefully phased programme should be prepared by using network analysts for the Introduction of the system.

Q.4. List down any eight factors that you will consider before installing a costing system.

Answer.

The eight factors which must be considered before installing a Costing System are listed below:

- (1) **Nature of business:** The system of costing to be introduced should suit the general nature of business.
- (2) **Layout aspects:** The size and layout of the organization should be studied by the system designers.
- (3) **Methods and procedures in vogue:** The system designers should also study various methods and procedures for the purchase, receipts, storage and issue of material. They should also study the methods of wage payment.

- (4) **Management's expectations and policies:** The system of costing should be designed after a careful analysis of the organizational operations, management's expectation and the policies of the concern.
- (5) **Technical aspects:** The technical aspects of the business should be studied thoroughly by the designers. They should also make an attempt to seek the assistance and support of the supervisory staff and workers of the concern for the system.
- (6) **Simplicity of the system:** The system of costing to be installed should be easy to understand and simple to operate. The procedures laid down for operating the system should be easily understood by operating system.
- (7) **Forms standardization:** Various forms to be used by the costing system for various data/information collection and dissemination should be standardized as far as possible.
- (8) **Accuracy of data:** The degree of accuracy of data to be supplied by the system should be determined.

Q.5. Outline the steps involved in installing a costing system in a manufacturing unit. What are the essentials of an effective costing system?

Answer

The main steps involved in installing a costing system in a manufacturing unit may be outlined as below:

- (1) The objectives of installing a costing system in a manufacturing concern and the expectation of the management from such a system should be identified first. The system will be a simple one in the case of a single objective but will be an elaborate one in the case of multiple objectives.
- (2) It is important to ascertain the significant variables of the manufacturing unit which are amenable to control and affect the concern. For example, quite often the production costs control may be more important than control of its marketing cost.. Under such a situation, the costing system should devote greater attention to control production costs.

Q.6. What are the Pre- requisites for installation of Cost Accounting System.

Installation of a Costing System

A cost accounting system is a set of plans, programmes, procedures and documentation designed to accumulate costs, assign them to products, processes and jobs, and report cost information to management at all levels. It assists management in planning, control, performance appraisal, analysis of product profitability and optimum utilization of physical and financial resources for achieving organizational objectives.

The following considerations should be specifically taken into account:

1. **Design in suit specific needs** The system should be designed as to serve the specific needs of the organization.
2. **In depth examination of production details:** Before installing the system, management should make an, in-depth study of nature of products and processes, technologies, plant layout, nature of material used, so that cost accounting system is tuned to the requirements of the business,
3. **Cost Benefit analysis:** The benefit from the proposed cost accounting system should far exceed the cost involved. The best system, if cost benefit, becomes useless.

4. **Location of cost office:** Costing department obtains basic data mainly from accounts department. Most of this data is related to production activity.
5. **Codification:** All costs relating to all products of all departments should preferably be coded. This will increase speed in handling and processing of costs. Codification also facilitates computerization of costing system.
6. **Continuous Monitoring:** Operation of cost accounting system should be continuously monitored so that deficiencies do not creep in, methodical work is not replaced by short-cuts, and the system is always kept up-to-date.

Difficulties in Installing Cost accounting System

1. Lack of enthusiasm and support from top management because they are not fully convinced about the benefits from such system.
2. resistance from production staff and people at different levels in other departments because they fear getting subjected to additional controls.
3. Resistance from accounting staff as they believe that their work would increase.
4. Shortage of trained and well-qualified staff.
5. Over enthusiasm to have an unnecessary detailed costing structure or keeping it too simple due to too much concern for cost.
6. High cost of installing the system.
7. Failing to keep the system up-to-date,

Q.7. How are costs classified on the basis of Time Period?

On the basis of Time Period: Costs are classified into:

- (1) **Historical Costs-** Costs relating to the past time period: Cost which has already been incurred.
- (2) **Current Costs-** Costs relating to the present period.
- (3) **Pre determined Costs-** Costs relating to the future period; Cost which is computed in advance, on the basis of specification of all factors affecting it.

Q8. How are costs classified on the basis of Behavior/ Nature/ Variability?

On the basis of Behavior/ Nature/ Variability: Costs are classified into:

- (1) **Variable Costs-** These are costs which tend to vary or change in relation to volume of production. They increase in total as production increases and vice-versa e.g. cost of raw materials, direct wages etc. However, variable costs per unit are generally constant for unit of the additional output.
- (2) **Fixed Costs-** these are costs which remain constant at various levels of production. They are not affected by volume of production e.g. factory rent, Insurance etc. Fixed Costs per unit decreases and vice-versa. Sometimes, these are also known as Capacity Costs or Period Costs.
- (3) **Semi- Variable Costs-** These are costs which are partly fixed and partly variable. These are fixed upto a particular volume of production and become variable therefore for the 1 next level of production. Hence, they are also called Step Costs. Some examples are Repairs and Maintenance, Electricity, Telephone etc.

Q.9. How are costs classified on the basis of Elements?

On the basis of elements: Costs are classified into:

- (1) **Materials-** Cost of tangible, physical input used in relation to output/ production: e.g., costs of raw materials, consumable stores, maintenance items etc.
- (2) **Labour-** Cost incurred in relation to human resources of the enterprise; e.g, wages to workers, Salary to Office Staff, Training Expenses etc.
- (3) **Expenses-** Cost of operating and running the enterprise, other than materials and labour; this is the residual category of costs, E.g, Factory Rent, Office Maintenance, Salesman Salary etc.

Q.10. How are costs classified on the basis of Relationships?

On the basis of Relationship : Costs are classified into:

- (1) **Direct costs-** Costs which are directly related to / identified with / attributable to a Cost Center or a Cost unit. E.g. Cost of basic raw material used in the finished product, wages paid to site labour in a construction contract etc
- (2) **In direct Costs-** Costs which are not directly identified with a cost centre or a cost unit. Such costs are apportioned over different cost centers using appropriate basis e.g, Factory Rent incurred over various departments; Salary of supervisors engaged in overseeing various construction contracts etc.

Q11. How are costs classified on the basis of Controllability? What are the aspects affecting Control?

On the basis of Controllability: Costs are classified into:

- (1) **Controllable Costs-** Costs which can be influenced and controlled by managerial action. However, Controllability is a relative term and is subject to the following factors.
 - a. **Time-** Certain costs are controllable in the long run and not in the short run.
 - b. **Location-** certain costs are not influenced and decided at a particular location / cost center. If rent agreements of all factory premises are executed centrally at the head Office, factory Managers cannot control the incurrence of cost.
 - c. **Product Output-** Certain costs are controllable by reference to one product or market segment and not by reference to the other. For example, cost of common raw material input for exports is lower than that of domestically sold goods since excise duty concession / duty drawback is available for export sales.
- (2) **Non - Controllable Costs-*** These are costs that cannot be influenced and controlled by a specific member of the organization. The line of difference between controllable and non-controllable costs is thin.

NOTE: No cost is uncontrollable. Controllability is subject to the factors laid down above.

Q12. How are costs classified on the basis of Normality?

On the basis of Normality: Costs are classified into:

- (1) **Normal Cost:** Costs which can be reasonably expected to be incurred under normal, routine and regular operating conditions.
- (2) **Abnormal Cost:** Costs over and above normal cost; which is not incurred under normal operating conditions e.g, fines and penalties.

Q13. Enumerate the types of costs on the basis of Functions.

On the basis of Functions: Costs are classified as under;

- (1) **Production Cost:** The cost of the set of operations commencing with supply of materials, labour and services and ends with the primary packing of product. Thus it is equal to the total of Direct Materials, Direct labour, Direct Expenses and Production Overheads.
- (2) **Administration Cost:** The cost of formulating the policy, directing the organization and controlling the operations of the undertaking, which is not directly related to production, selling, distribution, research or development activity or function. Some examples are Office rent, Accounts Department Expenses, Audit and Legal expenses, Directors Remuneration etc.
- (3) **Selling Costs:** The cost of seeking to create and stimulate demand and of securing orders. These are sometimes called marketing costs. Some examples are Advertisement, Salesmen remuneration, Show-room Expenses, Cost of samples etc.
- (4) **Distribution Cost:** The cost of the sequence of operations which begins with making the packed product available for dispatch and ends with making the reconditioned returned empty package, if any, available for re- use. Some examples are Distribution packing (secondary packing), carriage outwards, maintenance of delivery vans, expenditure incurred in transporting articles to central or local storage, expenditure incurred in moving articles to and from prospective customers(as in sale or Return) etc.
- (5) **Research Cost:** The cost of the process which begins with the implementation of the decision to produce a new or improved products, new application of materials or improved methods.
- (6) **Development Cost:** The cost of the process which begins with the implementation of the decision to produce a new or improved product, or to employ a new or improved method and ends with commencement of formal production of that product of by that method.
- (7) **Pre production Cost:** The part of development cost incurred in making a trial production run prior to formal production.
- (8) **Conversion Cost:** The sum of direct wages, direct expenses and overhead cost of conveying raw materials to the finished stage or converting a material from one stage of production to the other.

Q14. Write short notes on Period Costs and Product Costs. Why should product costs be computed?

On the basis of attributability to the Product: Costs are classified into:

- (1) **Period Costs:** These are costs which are not assigned to the products but are charged as expenses against the revenue of the period in which they are incurred. Non - manufacturing costs e.g. Selling and Distribution Costs are generally recognized as expenses against the revenue of the period in which they are incurred. Non- manufacturing costs. These costs are not included in inventory : valuation.
- (2) **Product Costs:** These are costs which are assigned to the product and are included in inventory valuation. These are also called as Inventorable costs. Under absorption costing, total manufacturing costs are regarded product costs under marginal costing, total manufacturing costs are regarded product costs while under marginal costing, only variable manufacturing costs are considered. The purposes of computing product costs are as under:

- a. **Preparation of Financial Statements-** Focus on inventory valuation and reporting profits.
- b. **Product Pricing-** Focus on costs assigned and incurred on the product till it is made available to the customer/ user.
- c. **Cost- plus- Contracts with Government Agencies-** Focus is on reimbursement of costs specifically assigned to the particular job / contract.

Q15. List out the various items of costs on the basis of relevance to decision making. Or Explain the Significance of " Decision- Making Cost."

On the basis of Relevance to decision making: Costs are classified into:

- (a) **Relevant Costs** viz. Marginal Costs, Differential Costs, Opportunity Costs etc.
- (b) **Irrelevant Costs** viz. Absorbed fixed Costs, Sunk Costs, Committed Costs etc.
- (A) **Relevant Costs:** These are costs which are relevant and useful for decision-making purpose.
- (1) **Marginal Cost-** Marginal cost is the total variable cost i.e. prime cost plus variable overheads. It is assumed that variable cost varies directly with production whereas fixed cost remains fixed irrespective of volume of production. Marginal cost is a relevant cost for decision-making as this cost will be incurred in future for additional units of production.
- (2) **Differential Cost-** It is the change in costs due to change in the level of activity or pattern or method of production. Where, the change results in increase in cost it is called incremental cost, whereas if costs are reduced due to decrease of output, the difference is called decremented costs.
- (3) **Opportunity Cost-** This refers to the value of sacrifice made or benefit of opportunity foregone in accepting an alternative course of action, For example, a firm may finance its expansion plan by withdrawing money from its bank deposits. In such a case the loss of interest on the bank deposit is the opportunity cost for carrying out the expansion plan. Opportunity cost is a relevant cost where alternatives are available. However, opportunity cost does not find any place in formal accounts and is computed only for decision making and analytical purposes,
- (4) **Out- of- pocket Costs-** These are costs which entail current or near future outlays of cash for the decision at hand as opposed to costs which do not require any cash outlay such as depreciation. Such costs are relevant for decision-making, as these will occur in near future. It is that portion of total cost which involves cash outflow. This cost concept is a short- run concept and is used in decisions relating to fixation of selling price in recession, make or buy, etc. Out of pocket costs can be avoided or saved if a particular proposal under consideration is not accepted,
- (5) **Replacement Cost-** It is the cost at which there could be purchase of an asset or material identical to that which is being replaced or revalued. It is the cost of replacement at current market price and is relevant for decision- making.
- (6) **Imputed Costs-** These are notional costs appearing in the cost accounts only e.g, notional rent charges, interest on capital for which no interest has been paid. Where alternative capital investment projects are being evaluated, it is necessary to consider the imputed interest on capital before a decision is arrived at, as to which is the most profitable project.

- (7) **Discretionary costs-** These are "escapable" or "avoidable" costs. These can be avoided if a particular course of action is not chosen. In other words, these are costs, which are essential for the accomplishment of a managerial objective.
- (B) **Irrelevant Costs:** These are costs which are not relevant for decision-making.
- (1) **Sunk Cost-** It is a cost which has already been incurred or sunk in the past. It is not relevant for decision- making and is caused by complete abandonment as against temporary shut- down. Thus, if a firm has obsolete stock of materials amounting to Rs. 10,000 which can be sold as scrap for Rs. 2,000 or can be, utilized in a special job, the value of opening stock of Rs. 10,000 is a sunk cost and is not relevant for decision- making.
- (2) **Committed Cost-** A cost which has been already committed by the management is not relevant for decision- making. This should be contrasted with discretionary costs, which are avoidable costs.
- (3) **Absorbed Fixed Cost-** Fixed costs which do not change due to increase or decrease in activity is irrelevant for decision- making. Although such fixed costs are absorbed in cost of production at a normal rate, they are irrelevant for managerial decision making. However if fixed costs are specific, they become relevant.

Q16 Write short notes on Explicit and Implicit Costs.(C.A. P.E. 11 May 2005, May 2006

- (a) **Explicit Costs-** These are also known as out of pocket costs they refer to costs involving / immediate payment of cash. Salaries, wages, postage and telegram, printing and stationary, interest on loan etc. are some examples of explicit cost involving immediate cash payment.
- (b) **Implicit Costs-** These costs do not involve any immediate cash payment. They are not recorded in the books of account. They are also known as economic costs or imputed costs.

Q17. Define the terms (a) Estimated Costs, (b) Shut Down Costs and (c) Absolute Costs.

- (a) **Estimated Cost-** Kohler defines estimated cost as" the expected cost of manufacture or acquisition, often in terms of a unit of product computed on the basis on information available in advance of actual production or purchase". Estimated costs are prospective costs they refer to prediction of costs.
- (b) **Shut down costs-** These are costs which continue to be incurred even when a plant is temporarily shut down, e.g. rent, rates, depreciation, etc. These costs cannot be eliminated with the closure of the plant. In other words, all fixed costs which cannot be avoided during the temporary closure of a plant will be known as shut down costs.
- (c) **Absolute cost-** These costs refer to the cost of any product, process or unit in its totality. When costs are presented in a statement form, various cost components may be shown in absolute amount or as a percentage of total cost or as per unit cost or all together. Here the costs depicted in absolute in absolute amount may be called absolute costs and are base costs on which further analysis and decisions are based.

Q18. Write Short notes on Direct Expenses or Chargeable Expenses?

Ans. These are the Expenses which can be charged directly to Jobs, Product, Processes, Cost Units. These are also known as Direct Expenses. Depending on the Situation, the same item of expenses may be treated as a chargeable Expenses or an indirect Cost.

For example, the rent charges of a machine specifically hired to complete a particular job will be a direct charge on the job. But if the same machine is used for various purposes,

then the rent charges will be treated as indirect cost and are apportioned to concerned cost centers on an equitable basis.

Nature of Direct Expenses

- (1) These are expenses other than Direct materials and Direct Labour
- (2) These are either allocated or charged completely to cost centers or cost units.
- (3) These are included in the prime Cost of a Product.

Examples

- (1) Hire charges in respect of special machinery or plant.
 - (2) Cost of special Moulds, design and Patterns,
 - (3) Payment of royalties
 - (4) Architects, Surveyors and other consultant's fees.
 - (5) Traveling expenses to site.
 - (6) Freight inward on special material.
- Direct Costs are sub-classified on the basis of elements into Materials, Labour and Expenses.
 - Indirect Costs (Overheads) are sub-classified on the basis of functions.

Q.19. What is meant by Cost Period?

The period to which the Cost relates is called Cost Period. It is also called the control period since cost ascertainment is for the purpose of control. Generally, the cost period is shorter than the financial period used for reporting purposes.

For example, if the production process for converting raw material into finished product requires 15 days, it may be considered as a Cost Period.

Q.20. Define a Cost Unit. Give suitable illustrations.

Cost Unit: It is a unit of production, service or time or combination of these, in relation to which costs may be ascertained or expressed. It should be one with which expenditure can be most readily associated.

An appropriate cost unit should be selected keeping in view the following:

1. Cost units should suit the business.
2. It should be most natural to the business.
3. Cost unit should be readily understood and accepted by all concerned.
4. Cost unit should be uniformly maintained over a period of time and should be same or similar products.

Cost Units differ from one business to the other. They are usually units of physical measurement like number, weight, area, volume, time, length and value. Some illustrations of cost units are as under:

Examples of cost Units and Methods of Costing in Various industries

Industry	Cost Unit	Methods of costing
Bricks	Per 1,000 bricks	Unit costing

Cement	Per ton	Process costing
Road construction	Per k.m or per mile	Job costing
Advertising	Each job	Job
Interior decoration	Each job	Job
Made to order	Number	Job costing
Readymade	Number	Batch costing
Tyres and tubes batch	Each	Batch costing
Toy	Each batch	Batch costing
Pharmaceuticals	1000 Nos., tablets, strips, capsules	Batch costing
Water supply	Per 1000 litre	Operating costing
Bus service	Passenger-kilometer	Operating costing
Education	Per student hour	Operating costing
Electricity	Per kilowatt-hour	Operating costing
Hotel	Per guest per day or per guest per meal etc.	Operating costing
Bridge construction	Each contract	Contract costing
Ship building	Each ship	Contract costing
Mining	Per ton	Process costing
Petrochemicals	Tons, gallons litres	Process costing
Steel	Per ton	Process costing
Textiles	Per meter	Process costing
Sugar	Per tonne	Process costing
Paper	Per kg/tonne	Process costing
Chemical	Per kg/litre/tonne	Process costing
Fertilizer	Per tonne	Process costing
Oil refinery	Per gallon	Process costing
Automobile	Number	Process costing
Colliery	Per tonne	Output
Bicycle manufacturing	Number	Multiple costing

Q.21. What is a Responsibility Centre? What are its types?

Meaning:

- It is an activity centre of a business organization entrusted with a special task.

- It is a unit of function of a business organization headed by an executive responsible for its performance:

Types of Responsibilities Centres

Particulars	Cost Centres	Revenue Centres	Profit Centres	Investment Centres
Meaning	A centre for which a standard amount of cost is pre-determined and used for control.	A centre devoted to raising revenue (no responsibility for production)	A centre whose performance is measured in terms of income earned and cost incurred (profit earning)	A centre responsible for earning profits and also for asset utilization.
Primary responsibility	Cost reduction and cost control	Generation of sale revenue	Profit earning	Earning return of Investments.
Performance evaluation	Standard cost less actual cost	Budgeted revenue less actual revenue	Budgeted profits less actual profits	Budgeted ROI less actual ROI
Other points	Control of cost is subject to- 1. Time 2. Location 3. Product	Also responsible for some expenses related with mark-eting of products.	It may mean that one division sells its output to another division within the organization - i.e.inter-divisional transfer pricing.	

Q.22. Write short note on Cost Centre? Discuss the various types of Cost Centres.

Cost Centre:

A cost centre refers to a section, segment or subdivision of an organization of which costs are charged. A cost centre is 'location, person or its of equipment (or group of these) for which costs may be ascertained and used for the purpose of control. For example a cost centre may be

- Allocation e.g., departments sales territories etc.
 - A person e.g., engineers salesmen, machine operators, etc.
 - An item of equipment, e.g., machines delivery vans, etc.
- Classification: Cost Centres can be classified as under:

(a) Based on Type:

Personal Cost Centre	Impersonal cost Centre
It consists of a person or group of persons.	it consists of a location or an item of equipment (or group of these)

(b) Based on Role:

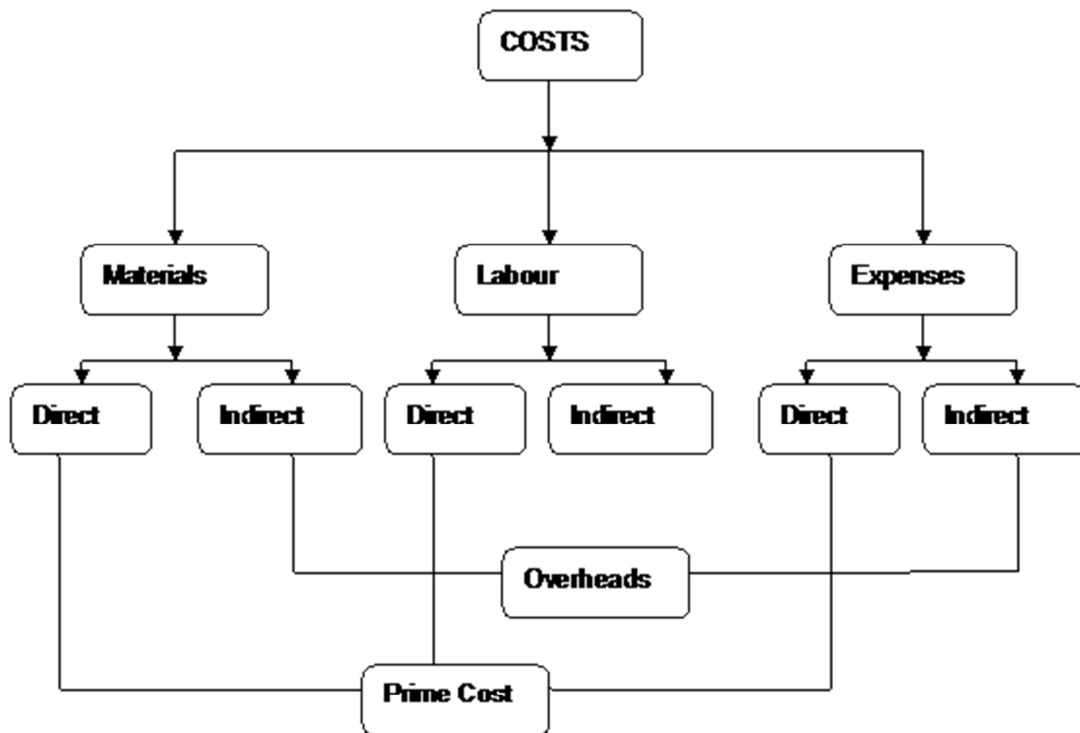
Personal Cost Centre	Service cost Centre
It is a cost centre where raw material is processed and converted into finished product	It is a cost centre which serves as an ancillary unit and renders services to a production cost centre.
Here both direct and indirect costs are incurred	Here only indirect costs are incurred. There are no direct costs as there is no measurable and saleable output.
Machine shops, welding shops and assembly shops are examples of production Cost Centres,	Power-house, gas production shop, material service centres, plant maintenance centres are examples of service cost centres.

(c) Based on Activity:

Operational Cost Centre	Process cost Centre
It consists of machines and / or persons, carrying out similar operations.	It consists of machines and / or persons, engaged on a specific process or a continuous sequence of operation.
All machines/operators performing the same operation are brought together under a Cost Centre, the purpose being ascertainment of cost of each operation irrespective of its location inside the factory.	Cost is analysed and related to a series of operations in sequence. Generally, these constitute a single location, as in oil refineries and other process industries

Q.23. Write short notes on the various methods of costing. Or Discuss the different Methods of costing along with their applicability to concerned Industry?(1999 Nov)

Business vary in their nature and in the type of products or services they produce. Hence different methods of cost ascertainment are used in different business. The output has to be costed, so that costing methods to be employed are also determined with due regard to the method of production and the unit of cost used. The various methods of costing can be summarized as under:



Job Costing: Under this method, the cost of each job is ascertained separately. It implies that the direct cost of each job is traceable and identifiable. It is suitable in all cases where work is undertaken on receiving a customer's order / assignment, Some examples are; printing press, motor workshop etc.

Batch Costing: It is an extension of job costing. It is used where the output under a particular work order consists of similar units. . It may not be economically feasible to ascertain cost per unit. Hence a collection or lot of units called a batch is taken for cost ascertainment purposes. Each batch is treated as a unit of cost, and thus separately costed. Here cost per unit is determined by dividing the cost of the batch by the number of units produced in the batch. Examples: Pharmaceuticals, Production of component parts like cycle rims, TV monitor screens etc. in bulk for subsequent assembly.

Contract Costing- A larger job is called a contract. Generally, execution of work is distributed over two or more financial years. Hence) the cost of each contract is ascertained separately. It is suitable for firms engaged in the construction of bridges, roads, buildings etc.

Single or Output Costing - Cost is ascertained for a product, the product being the only one produced like bricks, coals, etc.

Process Costing and Operation Costing- The cost of completing each stage of work is ascertained, like cost of making pulp and cost of making paper from pulp. In mechanical operations, the cost of each operation may be ascertained separately; the name given is operation costing.

Operating or Service Costing: Ascertainment of cost of rendering or operating a service is called Service Costing or Operating Costing. It is used in the case of concerns rendering services like transport, cinema, hotels, etc., where there is no identifiable tangible cost unit

Multiple Costing- It represents a combination of two or more methods of costing outlined above. For example, if a firm manufactures bicycles including its components; the parts will be costed by batch costing system but the cost of assembling the bicycle will be computed by the Single or output costing method. This whole system of costing is known as multiple costing.

The following table summarises the various methods of costing applied in different industries

Nature of Output	Method	Cost Ascertainment	Examples of Industries
Customer Specifications: Single Unit	Job Costing	For each order/ assignment/ job	Automobile workshop/ Interior Decoration
Number of similar units	Batch Costing	For each batch/ lot of units produced	Printing Press- for Cards, invitations etc/ Pharmaceuticals,
Execution of work	Contract Costing	For each contract	Civil Construction/ Ship building
Similar units of a single product produced by: Single process	Unit or Output or single costing	For the entire activity, but averaged for the output	Quarries, Brickworks, Colliery, Paints etc,
A Series of processes	Process Costing or Operation Costing	For each process or operation	Oil Refining, Breweries, Chemicals etc.
Consisting of multiple varieties of activities and process	Multiple costing	Combination of any of the methods listed above.	Bicycle Assembly
Rendering of Services	Operating Costing	For every type of Service	Transport, Hotels, Cinema

Q.24. What do you mean by "Techniques of Costing".

In addition to the above methods of costing there are certain techniques of costing which are used along with any of the above method. These techniques serve the special purpose of managerial control and policy. Some of the important techniques are as follows:

1. Standard Costing It is a valuable technique of cost control
2. Budgetary Control It is also a technique that is used to control costs.
3. Marginal Costing It is a special technique to help the management in decision-making and profit planning. In this technique, only variable costs are charged to products and fixed costs are treated as period costs and transferred to P & L A/c.
4. Absorption Costing As against marginal costing in this technique total

- cost, i.e. fixed and variable is charged to products.
5. **Uniform costing** It is a system whereby several undertaking uses the same costing principles and practices so as to make cost data comparable.

Q.25. What are the types of cost ascertainment?

For ascertaining cost, following types of costing are usually used:

- (1) **Uniform Costing:** When a number of firms in an industry agree among themselves to follow the same system of costing, by adopting common technology for various items and processes they are said to follow a system of uniform costing. Such a system of cost ascertainment facilitates inter-firm comparison, determination of true costs of the industry.
- (2) **Marginal Costing:** It is defined as the ascertainment of marginal cost by differentiating between fixed and variable costs. It is used to ascertain effect of changes in volume or type of output on profit. It is a tool of decision-making on various management issues. Under this method, stocks are valued at variable cost. Fixed Costs are treated as Period Costs and are not included in Stock Valuation.
- (3) **Absorption Costing:** It is the practice of charging all costs, both variable and fixed to operations, processes or products. Stocks are valued at total cost, inclusive of proportionate amount of fixed cost. This differs from marginal costing where fixed costs are excluded.
- (4) **Direct Costing:** It is the practice of charging all direct costs to operations, processes or products leaving all indirect costs to be written off against profits in which they arise. It may be distinguished from Marginal Costing, where only variable costs are identified with products.
- (5) **Standard Costing:** It is the name given to the technique whereby actual costs are compared with already set standards. It is thus a technique of both cost ascertainment and cost control. This technique may be used along with any method of costing. It is especially suitable where the manufacturing method involves production of standardized goods of repetitive nature,
- (6) **Historical Costing:** It is the ascertainment of costs after they have been incurred. This type of costing has limited utility.

Q.26. What is difference between Cost estimation and Cost ascertainment.

Cost estimation: Cost estimation is the process of predetermining the cost of the certain product or Job. This predetermination of cost is based upon budgetary control, standard costing and variance analysis. Cost estimation is made to take the decision regarding buy/make or to fix the sale price of the product etc.

Cost ascertainment: Cost ascertainment is the process of determining the cost on the basis of actual data. Hence, computation of historical cost is called Cost ascertainment. Cost estimation and ascertainment are interrelated and very important to the management to have a sound costing system. The ascertainment of cost greatly helps in cost estimation of future period.

The term cost centre is defined as a location, person or an item of equipment or a group of these for which costs may be ascertained and used for the purposes of cost control. Cost centres can be personal cost centres, operation cost centres and process cost centres.

Q.27 Distinguish between

- (1) Cost Unit and Cost Centre
- (2) Cost Centre and Profit Centre
- (3) Bill of material from a material requisition note

Answer.

(1) Distinction between Cost Unit and Cost Centre

The term Cost Unit is defined as a unit of quality of product, service or time (or a combination of these) in relation to which costs may be ascertained or expressed. It can be for a job, batch, or product group.

Cost Unit

The term cost unit is defined as a unit of product, service or time (or a combination of these) in relation to which costs may be ascertained or expressed. It can be for a job, batch, or product group.

Industry	Method of costing	Unit of cost
(1) Nursing Home	Operating	Per Bed per week or per day
(2) Road transport	Operating	Per Tonne Kilometer or per mile
(3) Steel	Process	Per Tonne
(4) Coal	Single	Per Unit
(5) Bicycles	Multiple	Each Unit
(6) Bridge	Construction Contract	Each contract
(7) Interior Decoration	Job	Each Job
(8) Advertising	Job	Each Job
(9) Furniture	Multiple	Each unit
(10) Sugar company having its own sugar-cane fields	Process	Per Quintal / Ton

The term Cost Centre is defined as a location, person or an item of equipment or a group of these for which costs may be ascertained and used for the purposes of Cost Control. Cost Centers can be personal Cost Centers, impersonal Cost Centers, operation cost and process Cost Centers.

Thus each sub-unit of an organization is Known as a Cost Centre, if cost can be ascertained for it. In order to recover the cost incurred by a Cost Centre, it is necessary to express it as the cost of output. The unit of output in relation to which cost incurred by a Cost Centre is expressed is called a Cost Unit.

(2) Cost Centre and Profit Centre

A Cost Centre is the smallest segment of activity or the area of responsibility for which costs are accumulated. A Profit Centre is that segment of activity of a business which is responsible for both revenue and expenses and discloses the profit of a particular segment of activity.

Important points of distinction between Cost Centre and Profit Centre are as below:

- (a) Cost Centers are created for accounting convenience of costs and their control where a profit centre is created because of decentralization of operations.
- (b) A Cost Centre does not have target costs but efforts are made to minimize costs, but a profit centre has a profit target and enjoys authority to adopt such policies as necessary to achieve its targets.

(3) Bill of Material and Material Requisition Note

Bill of Material: It is a comprehensive list of materials with exact description \ specifications, required for a job or other production units. This also provides information at required quantities so that if there is any deviation from the standards, it can easily be detected. It is prepared by the Engineering or Planning Department in a standard form.

Material requisition Note: It is a formal written demand or request, usually from the production department to store for the supply of specified materials, stores etc. It authorizes the storekeeper to issue the requisitioned materials and record the same on bin card.

The purpose of bill of material is to act as a single authorization for the issue of all materials and stores items mentioned in it. It provides an advance intimation to store department about the requirements of materials. It reduces paper work. It serves as a work order to the production department and a document for computing the cost of material for a particular job work order to the cost department.

The purpose of material requisition note is to draw material from the store by concerned departments.

Q.28.

(a) Match the following:

- | | |
|-------------------------|-------------------------------------|
| (a) Total fixed cost | 1. What cost should be? |
| (b) Total variable cost | 2. Incurred cost |
| (c) Unit variable cost | 3. Increase in proportion to output |
| (d) Unit fixed cost | 4. Cost of conversion |
| (e) Standard cost | 5. What costs are expected to be |
| (f). Period cost | 6. Decrease with rise in output |
| (g)'Actual cost | 7. Remains constant in total |
| (h) Labour and overhead | 8. Remains constant per unit |
| (i) Incremental cost | 9. Cost not assigned to products, |
| (j) Budgeted cost | 10. Added value of a new product. |

(b) Indicate whether the following statements are true or false:

- (1) All costs are controllable.
- (2) Conversion cost is equal to direct wages plus factory overhead.
- (3) Variable cost per unit varies with the increase or decrease in the volume of output.
- (4) Depreciation is an out of pocket cost.
- (5) An item of cost that is direct for one business may be indirect for another
- (6) Fixed cost per unit remains fixed.

Answer

(a) Correct matching are indicated as below:

- (a)(7)
Total fixed cost, remains constant in total.
- (b)(3)
Total variable cost, remains constant in total.
- (c)(8)
Unit variable cost, increases in proportion to output.
- (d)(6)
Unit fixed cost, decreases with rise in output.
- (e)(1)
Standard cost, what cost should be.
- (f)(9)
Period cost, cost not assigned to products,
- (g)(2)
Actual cost, incurred cost.
- (h)(4)
Labour and overhead, cost of conversion,
- (i)(10)
Incremental cost, added value of a new product.
- (j)(5)
Budgeted cost, what costs are expected to be

(b)

- (1) False
- (2) True
- (3) False

- (4) False
- (5) True
- (6) False

CHAPTER-2

COST SHEET

Q.1 What is a Cost Sheet? What are its uses?

Meaning: A Cost Sheet is a statement which shows the break- up and build - up of costs. It is a document which provides for the assembly of the detailed cost of a cost center or a cost unit.

Uses: The following are the uses of the Cost Sheet.

- (a) Presentation of Cost information.
- (b) Determination of Selling Price.
- (c) Ascertainment of profitability.
- (d) Product - wise and Location - wise cost Analysis.
- (e) Inter- firm and Intra- firm Cost Comparison.
- (f) Preparation of Cost Estimates for submitting tenders/ quotations.
- (g) Preparation of Budgets.
- (h) Disclosure of operational efficiency for Cost Control.

Q.2. What is the Proforma of the Cost Sheet?

The proforma of the Simple Cost sheet i.e. without stocks, is as under:

Direct Materials

Direct Labour

Direct Expenses

Prime Cost

Add: Factory Overheads (Works OH / Manufacturing OH / Production OK)

Factory Cost / Works Cost

Add: Administration Overheads

Cost of Production

Add: Selling and Distribution Overheads

Cost of Sales

Add: Profit / Loss (Balancing Figure)

Sales

The proforma of the Comprehensive Cost Sheet, i.e. with stocks, is as under;

Opening Stock of Raw Materials

Add: Purchases (including Carriage Inwards, Transit Insurance etc.)

Less: Closing Stock of Raw Materials

Direct Materials Consumed

Direct Labour

Direct Expenses

Prime Cost

Add: Factory overheads (Works OH / Manufacturing OH / Production OH)

Add: Opening Stock of Work in progress

Less: Closing Stock of Work in Progress

Factory Costs / Works Cost

Add: Administration Overheads

Cost of Production

Add: Opening Stock of Finished Goods

Less: Closing Stock of Finished Goods

Cost of Goods Sold

Add: Selling and Distribution Overheads

Cost of Sales

Add: Profit / Loss (Balancing Figure)

Sales

Q.3. Components of Total Cost.

Direct material + Direct labour + Direct expenses = Prime cost

Prime cost + Factory Overhead = Factory cost or works cost

Works Cost + Administration Overhead = Cost of production

Cost of Production + Selling and distribution overhead = Cost of sales or total cost

Q.4 Periodicity of cost sheet

Cost Sheet may be prepared weekly, fortnightly, monthly, quarterly, half- yearly or yearly.

Q.5. Distinguish between Production/ Manufacturing Account and a Cost Sheet, or, How does a Production Account differ from a Cost Sheet. (C.A Inter Nov. 1998, May 2000)

Production / Manufacturing Account	Cost Sheet
It is prepared on the basis of double entry system of book keeping.	It is only a statement and hence double entry system is not applicable.
The primary objective of preparation is Reporting.	The primary objective is decision- making.
It has two part- one showing the cost of Manufacture and the other part showing Sales and Gross Profit.	It is a step by step presentation of total and shows Prime Cost. Works Cost. Cost of Production. Cost of Goods.
	Sold, Cost of Sales and Net Profit.
Total Cost is shown in aggregate. Product wise or location wise analysis is not given.	Cost Sheet shows costs in a detailed and analytical manner, which facilitates cost Comparison
This is not useful for preparing tenders	Estimated Cost Sheets can be prepared based on past experience, and useful for submitting

quotations.

Examples:

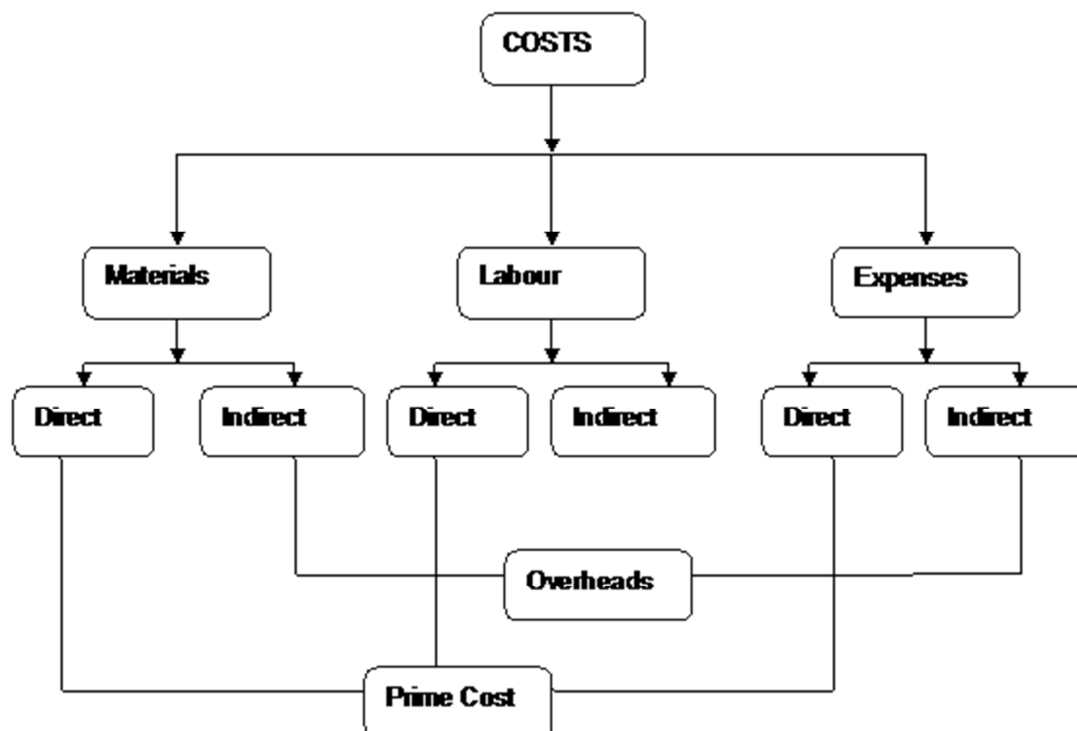
- (a) Where only one electric meter is installed in a factory, the common electricity charges should be apportioned to all the departments on the basis of no. of light points or floor area.
- (b) Factory Rent is incurred for the factory a whole and benefits all the departments in the factory. Hence, it should be apportioned to all the departments on the basis of floor area occupied

Meaning of Cost Absorption

Absorption of cost is charging cost from cost centre to products or services by means of absorption rate which is calculated as follows:

$$\text{Cost Absorption Rate} = \frac{\text{Total cost of the cost centre}}{\text{Total quantum of the base}}$$

Q.6 Classification of cost by element



Material The term 'materials' refer to all commodities supplied to an undertaking. For costing purposes, materials may be classified into two broad categories (a) Direct Materials (b) Indirect Materials.

(a) Direct Materials

1. Meaning	Direct materials are those materials which can be conveniently identified with and can be directly allocated to a particular product; job or process.														
2. Features	The main features of direct materials are; (a) It can be easily identified with a specific job, contract or work order. (b) It varies directly with the volume of output.														
3. Examples	Some examples of direct materials are as follows;														
	<table border="1"> <thead> <tr> <th>Basic Raw- Materials</th><th>Primary Packing Materials</th></tr> </thead> <tbody> <tr> <td>(a) Timber in furniture</td><td>(a) Can for tinned food and drink</td></tr> <tr> <td>(b) Cloth in Garments</td><td>(b) Bottles for water, wine & whisky</td></tr> <tr> <td>(c) Milk & cream in ice cream</td><td>(c) Plastic packing for Milk, Ghee & oil</td></tr> <tr> <td>(d) Paper in Books</td><td>(d) Tin packing for Ghee & Oil</td></tr> <tr> <td>(e) Gold/ Silver in Jewellery</td><td>(e) Card board box for drinks like fruity, Real juice</td></tr> <tr> <td>(f) Bricks or Cement in Building Construction</td><td>(f) Bag for Cement</td></tr> </tbody> </table>	Basic Raw- Materials	Primary Packing Materials	(a) Timber in furniture	(a) Can for tinned food and drink	(b) Cloth in Garments	(b) Bottles for water, wine & whisky	(c) Milk & cream in ice cream	(c) Plastic packing for Milk, Ghee & oil	(d) Paper in Books	(d) Tin packing for Ghee & Oil	(e) Gold/ Silver in Jewellery	(e) Card board box for drinks like fruity, Real juice	(f) Bricks or Cement in Building Construction	(f) Bag for Cement
Basic Raw- Materials	Primary Packing Materials														
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(f) Bricks or Cement in Building Construction	(f) Bag for Cement														
4. Treatment	Direct Material Cost forms part of prime cost .														

(b) Indirect materials

1. Meaning	Indirect materials are those materials which can not be conveniently identified with and cannot directly allocated to a particular product, job or process.
2. Features	The main features of direct Materials are: . (a) It can be easily identified with a specific job, contract or work order, (b) It may or may not vary directly with the volume of output.
3. Examples	Some examples of indirect materials are as follows: (a) Stores used for maintaining machines such as lubricant oil & grease, cotton waste, consumable stores etc. (b) Stores used by service departments like power house, boiler house, (c) Materials of small value which can not be conveniently identified with particular product, job or process. For example, nails used in furniture, thread used in stitching garments.

4. Treatment	Indirect Material Cost is treated as part of overheads.
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2. Labour

Labour is an essential factor of production. It is a human resource and participates in the process of production. Labour cost is a significant element of cost of a product or service. For costing purposes, labour may be classified into two broad categories: (a) Direct Labour and, (b) Indirect Labour.

(a) Direct Labour

1. Meaning	Direct labour is that labour which can be readily identified with a specific job, contract or work order. It includes- (a) all labour directly engaged in converting raw materials into finished " goods or in altering the construction, composition or condition of the product, (b) any other form of labour which is incurred wholly or specifically for any particular job, contract or work order
2. Features	The main features of direct labour are: (a) It can be easily identified with a specific job, contract or work order. (b) It varies directly with the volume of output.
3. Examples	Some examples of direct labour are: (a) Weaver in weaving unit (b) Carpenter in furniture unit (c) Tailor in readymade wears unit (d) Baker in Baking unit (e) Halwai in confectionery unit (f) Washer in Dry cleaning unit (g) Labour employed on construction contract
4. Treatment	Wages paid to direct labour are termed as 'direct labour cost' and form part of prime cost .

(b) Indirect labour

1. Meaning	Indirect labour is that labour which cannot be readily identified with a specific job, contract or work order. It includes all labour not directly engaged in converting raw-materials into finished goods or in altering the construction, composition or condition of the product.
2. Features	The main features of indirect labour are: (a) It can not be easily identified with a specific job, contract or work order

	(b) It may or may not vary directly with the volume of output.
3. Examples	Some examples of indirect labour are; (a) Labour employed in Personnel Department (b) Labour employed in Engineering & Work Study Department (c) Labour employed in Time-keeping Department (d) Labour employed in Pay-roll Department (e) Labour employed in Cost Accounting Department (f) Labour employed In Repairs & Maintenance Department (g) Labour employed in Stores Department (h) Labour employed in Power House Department (i) Labour employed in Security Department (j) Labour employed in Machine Shop such as tools setters, cleaners
4. Treatment	Wages paid to indirect labour are termed as indirect labour cost and are treated as part of overheads .

3. Expenses

All costs other than material costs and labour costs are termed as expenses. For costing purposes, expenses may be classified into two broad categories: (a) Direct Expenses, and (b) Indirect Expenses.

(a) Direct Expenses

1. Meaning	All direct costs other than direct material costs and direct labour costs are termed as direct expenses. These can be readily identified with and thus, can be directly allocated to a particular product, job or process. Thus, Direct expenses= Direct Costs- Direct Material Cost- Direct Labour Cost
2. Features	The Main features of direct expenses are: (a) It can easily be identified with a specific job , contract or work order, (b) it varies directly with the volume of output.
3. Examples	Excise Duty based on output produced Royalty based on output produced. Job Processing Charges Cost of special Moulds, designs and patterned Hiring Charges for machines, tools and equipments
4. Treatment	Direct expenses form part of prime cost .

(b) Indirect Expenses

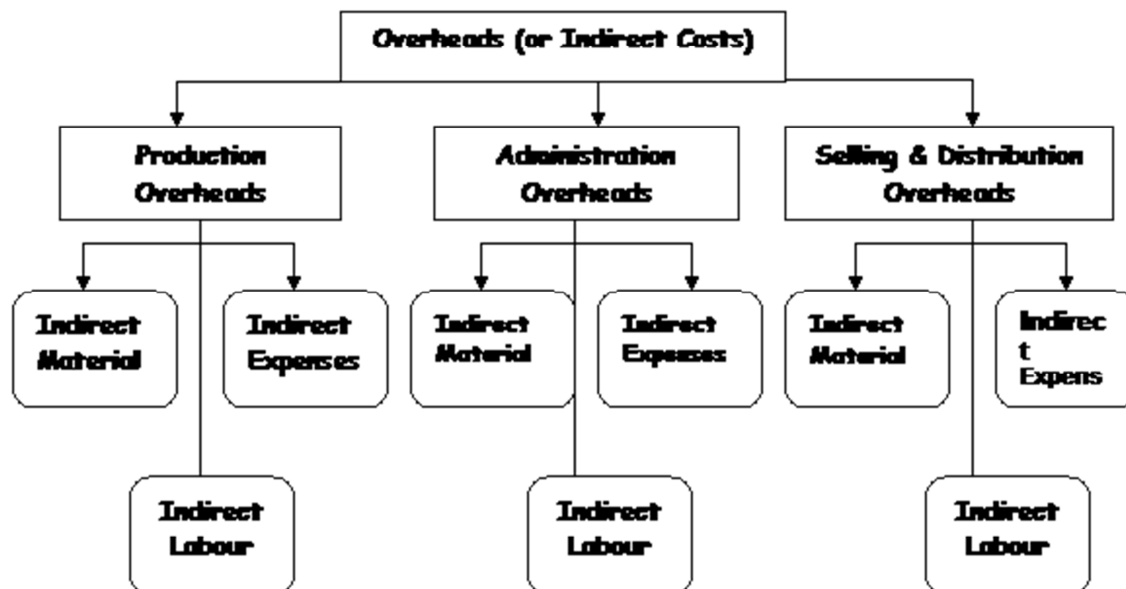
1. Meaning	All indirect costs other than indirect material costs and indirect labour costs are termed as Indirect expenses. These can not be readily identified with and thus, can not be directly allocated to a particular product, job or process. Thus, Indirect Expenses= Indirect Costs- Indirect Material Cost- Indirect Labour Cost
2. Features	The main features of Indirect expenses are; (a) It can not be easily identified with a specific job, contract or work order, (b) It may or may not vary directly with the volume of output.
3. Examples	Rent, Rates and taxes of Building Repairs, Insurance and Depreciation of Building, Plant and Machinery, Furniture Telephone Expenses Lighting , heating and Cleaning Expenses
4. Treatment	Indirect expenses are treated as part of overheads

Overheads or 'On Cost' or 'Indirect Cost'

All material, labour and expenses which cannot be readily identified with a particular product, job or process are termed as 'Indirect costs'. The three elements of indirect cost, viz, indirect materials, indirect labour and indirect expenses are collectively known as 'Overheads or On costs or Burden. Thus,

Overheads = Indirect Materials Cost + Indirect Labour Cost + Indirect Expenses

Overheads are grouped into following three broad categories:



Production / Manufacturing / Factory Overheads

Meaning: Production overheads represents all the indirect costs incurred in connection with the production of products or services. These represents the aggregate of indirect material cost, indirect labour cost and indirect expenses incurred by production department.

Examples:

(a) Indirect Materials Cost	(a) Cost of consumable stores and supplies like cotton waste, lubricating oil etc. (b) Cost of printing, Postage & Stationary used in Production Deptt.
(b) Indirect labour cost	(a) Salary of supervisor, works manager and departmental superintendents. (b) Contribution to ESI, P.P., leave pay, maternity pay
(c) Indirect Expenses	(a) Rent, rates & taxes of factory building (b) Repairs, insurance & depreciation of factory building, plant & machines and furniture (c) Factory telephone expenses (d) Lighting, heating & cleaning of factory

(2) Administration Overheads

Meaning: Administration overheads represents the cost of formulating the policy, directing the organization and controlling the operations of an undertaking which is not related directly to production, selling, distribution, research, or development activity or function. These represents the aggregate of material cost, labour cost and expenses incurred by Administration Department for the general management of an organization.

Examples

(a) Materials Cost	(a) Cost of printing, postage & stationery used in Administration department (b) Cost of dusters, brusher etc, for cleaning
(b) Labour Cost	(a) Salary of managing director, whole time director, general manager, finance manager, accounts manager, secretary, legal manager and other staff working in Administration department. (b) Remuneration of internal & statutory cost & financial auditors, Legal Advisors.
(c) Expenses	(a) Rent, rates & taxes of office building (b) Repair, insurance & depreciation of office building, equipment and furniture (c) Administration office telephone expenses (d) Lighting, heating & cleaning of Administration office.

(3) Selling Overheads

Meaning: Selling overheads represents the cost of seeking to create and stimulate demand and of securing order. Thus, this is the cost of promoting sales and retaining customers. These represent the aggregate of materials cost, labour cost and expenses incurred by sales department for the sales management of an organization.

Examples:

(a) Materials Cost	(a) Cost of printing, postage & stationary used insales department. (b) Cost of catalogues, list prices etc.
(b) Labour Cost	(a) Salary of sales director, sales manager, sales officers, salesmen

	and other staff working in sales department. (c) Commission to agents
(c) Expenses	(a) Rent, rates & taxes of sales office/showroom (b) Repairs, insurance & depreciation of sales office building, equipment and furniture (c) Sales office telephone expenses (d) Lighting, heating & cleaning of sales office (e) Advertising (f) Bad Debts (g) Debt Collection charges (h) Salesmen's traveling expenses (i) Entertainment expenses on customer

(4) Distribution Overheads

Meaning; Distribution overheads, represent the cost of the 'sequence' of operations which begins with making the packed product available for dispatch and ends with making the reconditioned returned empty package, if any, available for re-use. There also include expenditure incurred in moving in moving articles to central or local storage, or in moving articles to and from prospective 'customers as in the case of goods on sale or return basis. In the gas, electricity and water industries 'Distribution' means pipes, mains and service which may be regarded as equivalent to packing and transportation. These represent the aggregate of materials cost, labour cost and expenses incurred by distribution department for the distribution management of the organization.

Examples:

(a) Materials	(a) Cost of printing, postage & stationary used in distribution office (b) Cost of secondary packaging (c) Cost of materials used in reconditioning of the empty containers returned by customers for re-use.
(b) Labour	(a) Salary of staff attached to distribution office like, packers, despatch(staff) (b) Salary of distribution vehicle driver.
(c) Expenses	(a) Rent, rates & taxes of distributing office/godown /storage / warehouse (b) Repair, insurance & depreciation of distribution office Building, equipment & furniture, delivery van of

	distribution office (c) Distribution office telephone expenses (d) Lighting, heating & cleaning of distribution office (e) Depreciation, repair & running expenses of delivery vans (f) Freight & carriage outward (g) Insurance of finished stock in godown
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Q.7 Classification of costs by relation to cost centre

Cost	Meaning	Example
1. Direct Cost	It is the cost which can be conveniently identified with and directly allocated to a cost object in an economically feasible way. It represents the aggregate of (a) Direct Material Cost (b) Direct Labour Cost (c) Direct Expenses	Cost of cloth in a shirt Wages paid to tailor to shirt a shirt Excise duty on production
2. Indirect Cost	It is the cost which can not be conveniently identified with and directly allocated to a cost centre or cost object in an economically feasible way. It is apportioned to various cost centres on some equitable basis. It is also known as overhead. It represents the aggregate of (a) Indirect Material Cost (b) Indirect Labour Cost (c) Indirect Expenses	Lubricating oil for machine Salary of supervisor. Repairs, Insurance & Depreciation of machines

Q.8. Special Costs Used for Managerial Decision - Making

Special Costs	Meaning	Example
1. Relevant Costs	These are those future costs which differ under different alternatives. These can be changed by the decision of the management.	In case of a decision relating to the replacement of an old machine, dismantle cost of an old machine is a relevant cost.
2. Irrelevant Cost	These are those costs which are not relevant, These cannot be changed by the decision of the management.	In case of a decision relating to the replacement of an old machine, depreciated book value of old machine is irrelevant cost.
3. Sunk Costs	These are the historical or past costs incurred by a past decision. Since sunk costs can not be changed by later decision, these are not relevant for decision- making.	In case of decision relating to the replacement of an old machine, depreciated book value of old machine is sunk cost.
4. Shut- down	These are those fixed costs which continue to be incurred even when a	Rent, insurance and

Costs	plant is temporarily shut down.	depreciation of Building
5. Out of Pocket Cost	These are those costs which involve cash outlay. These can be avoided or saved. These are used In decisions, relating to fixation of selling price during depression, make or buy etc.	Wages of workers, purchase of Materials, Rent & Insurance of Building,
6. Opportunity costs	It is the value of sacrifice made in accepting an alternative course of action.	Likely Rent of owned building proposed to be used for a new project.
7. Imputed costs	These are the notional costs which do not involve any cash outlay. These costs are similar to opportunity costs.	1. Rent of owned building. 2. Interest of owned capital.
8. Differential costs	It is the increase or decrease in total Cost (variable & fixed) due to change in activity level, technology, process or method of production etc. It is termed as incremental cost when the cost increases and as decrement cost when the cost decreases.	Total cost under alternative 1= Rs 1,00,000, Total cost under alternative 11= Rs 1,20,000 Differential cost= Rs 20,000
9. Marginal cost	It is the amount at any given volume of output by which aggregate costs are changed if the volume of output is increased or decreased by one unit. In practice this is measured by the total variable cost attributable to one unit.	Direct Material Cost Rs 400, Direct Labours Cost Rs 300, Direct Expenses Rs 200, Variable Overhead Rs 100, Marginal Cost is Rs 1,000
10. Replacement cost	It is the cost at which an asset identical to that which is to be replaced, could be currently purchased. In other words, it is the current purchase price of an identical asset.	An old machine purchased for Rs 1,00,000 in the year 2,000 is to be replaced in the year 2005 by a new machinery of the same type which could be purchased for Rs 2,00,000. Here replacement cost of old machine is Rs 2,00,000.
11. Conversion cost	It is the cost of converting a raw material into a finished product. It is the aggregate of direct labour cost, direct expenses and production overheads.	Direct Material Cost Rs. 400, Direct Labour Cost Rs 300, Direct Expenses Rs 200, Production overheads Rs 100, Conversion Cost is Rs 600
12. Committed costs	These are those costs which can not be avoided in the short run once the decision to incur them, has been taken.	Depreciation of plants equipment.
13. Discretionary	These are those costs which can	Advertising costs, Research

costs	be avoided by managerial decisions.	Development Costs.
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Q.9. Items excluded from Cost Accounts

The following items of income and expenditure are normally included in financial accounts and not in cost accounts. Their inclusion in cost accounts might lead to unwise managerial decisions. These Items are:

1. Incomes	(a) Profit on sale of Fixed Assets (b) Profit on sale of investments (c) Interest Income (d) Dividend Income (e) Rental Income (f) Transfer fees
2. Expenditures	(a) Loss on sale of fixed assets (b) Loss on sale of Investments (c) Interest on mortgage and loans (d) Preliminary expenses written off (e) Goodwill written off (f) Underwriting commission and debenture discount written off (g) Fines and penalties
3. Appropriations	(a) Income tax (b) Dividend Distribution tax (c) Transfer to General Reserves (d) Transfer to Special Reserves like Dividend Equalisation Reserve etc.

Q.10 Components of total cost

The various components of total cost are as follows:

Component	How to calculate component
1. Prime cost	= Direct Material Cost* Direct Labour Cost + Direct expenses Note: Direct Material Cost = Opening Stock of raw materials + Net purchases (e.g., carriage/ freight inward)- Closing Stock of raw- materials.
2. Works cost or factory cost	= Prime Cost + works/ factory / production overloads* opening WIP-closing WIP Note: Work-in-progress represents those units on which some work has been done but which are not yet complete. When work-in-progress is valued at factory cost, it is adjusted as shown above,
3. Cost of production or cost of goods produced	= Works Cost + Administration Overheads
4. Cost of goods sold	Cost of goods produced + Opening Stock of finished goods - Closing stock of finished goods

5. Cost of sales

Cost of goods sold + Selling & Distribution Overheads

Q.11 Format of Statement of Profit or Loss

There is no prescribed form of production statement. It may vary from industry to industry. A specimen of the general statement of profit or loss is given below;

Statement of profit or loss

Particulars	Total (Rs.)	Per unit (Rs.)
A. Direct Material Cost Opening Stock of Materials Add: Purchases Add: Expenses on Purchases Less: Purchase Returns Less: Closing Stock of Materials Less: Net value of Normal Scrap of Direct Materials		
B. Direct Labour Cost Paid Add: Outstanding at the end Less: Prepaid at the end		
C. Direct Expenses (e.g. Royalty on Production)		
D. Prime Cost [A + B + C+]		
E. Works Overheads / Factory Overheads / Production Overheads Less: Net value of Normal Scrap of Indirect Materials Adjustment on account of Stock of WIP Add: Opening Stock of Work-in-progress Less: Closing Stock of Work-in-progress		
F. Works Cost [D + E]		
G, Add: Office & Administration Expenses		
H. Cost of Goods Produced [F + G]		
I. Adjustment on Account of Stock of Finished Goods: Add: Opening Stock of Finished Goods Less: Closing Stock of Finished Goods = Cost of goods produced		
J. Cost of Goods Sold [H + I]		
K. Add: Selling & Distribution Expenses		
L. Cost of Sales [J + K]		
M. Add: Profit		
N. Sales [L + M]		

1. These amounts are ascertained by dividing the respective total by the number of units produced.
2. These amounts are ascertained by dividing the respective total by the number of units sold.

Tutorial Notes:

- (1) Unless otherwise stated, closing stock of finished goods should be valued at current cost of production assuming that the first-in-first out method of inventory valuation is in use.
- (2) Items of financial nature like Income Tax, Cash Discount, Interest on Capital/ Bank Overdraft, Donations, Dividend, Preliminary Expenses/ Goodwill w/o, Provision for Doubtful Debts, T/f to reserves, etc. are ignored while preparing Cost Sheet/ Production Statement/Account.

Chapter 3

RECONCILIATION OF COSTING AND FINANCE PROFIT

Q.1 "Reconciliation of cost and financial accounts in the modern computer age is redundant". Comment (1998 - May)

Ans. In the modern computer age the use of computer knowledge and accounting software has helped the field of Financial and cost accounting in a big way. In fact, computers work at a very high speed and can process voluminous data for generating desired output in on time. Output produced is precise and accurate. Computers can work for hours without any figures. They can bring out different financial accounting and cost accounting statement and Reports accurately in a presentable form. Financial accounts and cost accounts show their results accurately and precisely, when maintained on a computer system, but the profit shown by one set of books may not agree with that of the other set.

The main reasons for the disagreement of the profit figures shown by the two set of books is the absence of certain items which appear in financial books only and are not recorded in cost accounting books. Similarly there may be some items which appear in cost accounts but do not find a place in the financial books. Some examples which affect it are as follows :

- (i) Loss/profit on sale of fixed assets.
- (ii) Expenses on stamp duty, discount and other expenses relating to the issue and transfer of shares and debentures.
- (iii) Fee received on issue and transfer of shares etc.
- (iv) Interest received on bank loan, mortgage etc.
- (v) Interest received on bank deposits and other investments.
- (vi) Fines and penalties

- (vii) Dividend received on investments in shares.
- (viii) Rental income etc.
- (ix) Under or recovered expenses.
- (x) Difference due to varying basis of valuation of stock or in the matter of charging depreciation.

Under the situation of different profit figures shown by financial and cost accounts, it is necessary to reconcile the results (profit / loss) shown. Such a reconciliation proves arithmetical accuracy of data, explains reasons for the different in the two sets of books affords reliability to them. Hence, the reconciliation of cost and financial accounts is essential and not redundant even in the modern age of computer.

Q.2 What are the reasons for disagreement of profits as per financial accounts and cost accounts? Discuss. (1999 – Nov)

Ans. Reasons for disagreement of "profit as per Financial accounts and cost account are as below. There are certain items which are included in Financial accounts but not in cost accounts. Likewise there are certain items which are in cost.

- (i) Accounts but not in financial accounts.

Examples of financial charges which appear only a financial books are :-

- (i) Loss on sale of fixed assets and investment.
- (ii) Interest on bank loans, mortgage etc.
- (iii) Expenses relating to the issue and transfer of share and debentures like stamps duty expenses; discount on share and debentures etc.
- (iv) Penalties and fines.

Examples of incomes which are recorded in the financial books only are :-

- (i) Profit on sale of investment and fixed assets.
- (ii) Interest received on investment and bank deposits.
- (iii) Dividend received on investment in shares.
- (iv) Fees received on issues and transfer of shares etc.
- (v) Rental income

There are abnormal or special items of expenditure and income which are not included in the cost production. Their inclusion in cost of production would result into correct cost ascertainment. Different bases of charging depreciation also accounts for the disagreement of profits as per financial and cost accounts. Different methods of valuation of closing stock adopted in cost and financial accounts will also account for the difference in profit under financial and cost accounts.

Q.3 What the reasons for disagreement of profits as per cost accounts and financial accounts? Discuss. (2000 – May)

Or

Why is it necessary to reconcile the profits as shown by the Cost and Financial Accounts?

Explain the reason for the difference in profit also. (B. com. - 1997)

Ans. Reasons for disagreement of profit as per cost and financial accounts.

The various reasons for disagreement of profit shown by the two sets of books viz., cost and financial may be listed below:

1. Items approaching only in financial accounts.

The following items of income and expenditure are normally included in financial accounts and not in cost accounts. Their inclusion in cost accounts might lead to unwise managerial decisions. These items are :

(i) Income :-

- (a) Profit on sale of assets
- (b) Interest received
- (c) Dividend received
- (d) Rent receivable
- (e) Share Transfer fees

(ii) Expenditure

- (a) Loss on sale of assets
- (b) Uninsured destruction of assets
- (c) Loss due to scrapping of plant and machinery
- (d) Preliminary expenses written off
- (e) Goodwill written off
- (f) Underwriting commission and debenture discount written off
- (g) Interest on mortgage and loans
- (h) Fines and penalties

(iii) Appropriation

- (a) Dividends
- (b) Reserves
- (c) Dividend Equalization fund, Sinking fund etc.

2. Items appearing only in cost accounts

There are some items which are included in cost accounts but not in financial accountants. These are :

- (a) Notional interest on Capital;
- (b) Notional rent on premises owned

3. Under or over - absorption of overhead

In cost accounts overheads are charged to production at pre - determined rates whereas in financial accounts actual amount of overhead is charged, the different gives rise to under - or over - absorption; causing a difference in profits.

4. Different bases of stock valuation

In financial books, stocks are valued at cost or market price, whichever is lower. In cost books, however, stock of material may be valued on FIFO or LIFO basis and work in progress may be valued at prime cost or works cost. Differences in stock valuation may thus cause a difference between the two profits.

5. Depreciation

The amount of depreciation charge may be different in the two sets of books either because of the different methods of calculating depreciation or the rates adopted. In cost accounts, for instance, the straight line method may be adopted whereas in financial accounts it may be the diminishing balance method.

Q.4 Why is it necessary to reconcile the profits between cost accounts and financial accounts? (2002 - Nov)

Ans. (a) Need for reconciliation: when cost and financial accounts are maintained separately, the profit shown by one set of books may not agree with that of the other set. In such a situation, it becomes necessary to reconcile the results (profit / loss) shown by two sets of books.

Cause for difference between profit shown by cost and financial accounts

- (1) There are certain items which appear in financial books only and are not recorded in cost accounting books e.g. loss on sale of fixed assets; expenses on stamp duty; interest on bank loan etc. Similarly, there may be some items which appear in cost accounts only and do not find a place in the financial books e.g., notional interest etc.)
- (2) In cost accounts, overheads are generally absorbed on the basis of predetermined overhead rate, whereas in financial accounts actual expenditure on overheads is recorded, this will also cause a difference between the figures of profit shown under financial and cost accounts.
- (3) Different methods of valuation of closing adopted in cost and financial accounts will also cause a difference in the results shown by the two sets of books. In financial accounts the method generally followed is cost or market price, whichever is less whereas in cost accounts different methods of pricing of material issues such as LIFO, FIFO average etc are used.
- (4) Use of different methods of depreciation is also responsible for the variation of profit shown by two sets of books. In financial accounts, depreciation may be charged according to written down value method whereas in cost accounts it may be charged on the basis of the life of the machine.
- (5) Abnormal items not included in cost accounts also cause a difference in profit. If such items of expenses are included, cost ascertained will not be correct.

Under non-integrated system of accounting, cost accounts and financial accounts are separately maintained. In such a system, profit and loss shown by costing books may not

agree with that shown by financial books. Therefore, it becomes necessary that profit or loss shown by the two sets of accounts is reconciled.

Need for Reconciliation

1. Reconciliation reveals the reasons for difference in profit and loss between cost and financial accounts.
2. It also helps in checking the arithmetical accuracy of the costing data.

Reasons for Difference in Costing and Financial Profit / Loss

1. Items shown only in financial accounts. There are a number of items which appear in financial accounts and not in cost accounts. These items are classified into three categories as under :
 - (a) Purely financial charges. The examples are as follows :
 - (i) Loss on the sale of capital assets.
 - (ii) Discount on bonds, debentures, etc.
 - (iii) Losses on investments.
 - (iv) Expenses of company's transfer office.
 - (v) Interest on bank loans and mortgages, etc.
 - (vi) Fines and penalties.
 - (vii) Damages payable under law.
 - (b) Purely financial incomes. The examples are as follows :
 - (i) Profit arising from the sale of capital assets.
 - (ii) Rent receivable.
 - (iii) Dividend and interest received on investments.
 - (iv) Interest received on bank deposits.
 - (v) Transfer fees received.
 - (c) Appropriations of profit. The examples are as follows :
 - (i) Dividends paid.
 - (ii) Transfer to reserves.
 - (iii) Charitable donations.
 - (iv) Income tax.
 - (v) Amounts written off goodwill, discount on debentures, preliminary expenses, etc.
 - (vi) Any other items which appears in Profit and Loss Appropriation Account.

(Assignment)

UNIT - II

Chapter - 4

INTEGRATED

THEORY

SHORT NOTES

Q.1 Write short notes (1995, 1996, 1997, 1998, 1999, 2001, 2002)

(B.Com - 1997, 2000)

Integrated accounting

Ans. Integrated Accounts:- It is the name given to a system of accounting whereby cost and financial accounts are kept in the same set of books. This system avoids the need for separate sets of books for financial and costing purpose. Integrated accounts provides or meets out fully the information requirement for costing as well as financial accounts. The main advantage of integrated accounts, are as follows:-

- (i) Due to the use of one set of books, there is a significance extent of saving in efforts made.
- (ii) No delay is caused in obtaining information as it is provided from books of original entry.
- (iii) The question of reconciling costing profit and financial profits does not arise, as there is one figure of profit only.
- (iv) The accounting procedures can be simplified.

Essential pre- requisites for integrated accounts are :-

- (1) A suitable coding system must be developed to serve the purpose of both financial and cost accounts.
- (2) An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustment necessary for the preparation of interim accounts be laid down.
- (3) Perfect coordination should exist between the staff responsible for the financial and cost aspect of the accounts.

Q.2 Write short notes on :

Cost Ledger control accounts (1996 - May)

Ans. **Cost ledger control accounts** :- this control account is also popularly known as 'General ledger adjustment statement accounts is opened in cost ledger to complete double - entry. All items of income and expenditure taken from financial accounts and all transfers from cost accounts to financial books are recorded in this account. Since the purpose of this account is to complete double entry in the cost ledger, therefore all transactions in the cost

ledger must be recorded through the cost ledger control account. The balance in this account will always be equal to the total of all the balance of the impersonal accounts.

Q.3 Distinguish between any two of the following :-

Integrated and non - integrated systems of accounting. (B. Com - 2001)

Ans. Non - integral system of accounting :- Under this system, cost and financial accounts are kept separately under two sets of accounts books. In other words, cost accounts are kept independent of financial accounts. At the end of the year cost accounting profit is reconciled with the profit as per financial accounts.

Integral system of accounting :- Under this accounting system. Both the cost accounts as well as financial accounts are maintained in one and the same set of books. It means 'the merger or integration of both financial and cost accounts thus maintaining only one integrated ledger containing both financial as well as costing records.'

Other wise, in non- integrated accounting system, cost accounts and financial accounts are kept separately. Under this system, however, certain inter - locking accounts may be maintained so as to ensure integration. This is known as inter - locking of the two accounts.

Under integrated accounting method, there is no need to reconcile the results of cost accounts with those of the financial accounts. It is so because in case of integrated accounting system both accounts are preferred as part of a single comprehensive accounting method.

Q.4 What are the essential pre-requisites of integrated accounting system?

(Nov., 1996, 2001, 3 marks)

Ans. Essential pre-requisites of Integrated Accounting System:

The essential pre-requisites of integrated accounting system including the following :

1. The management's decision about the extent of integration of the two sets of books. Some concerns find it useful to integrate upto the stage of primary cost or factory cost while other prefer full integration of the entire accounting records.
2. A suitable coding system must be made available so as to serve the accounting purposes of financial and cost accounts.
3. An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, other adjustment necessary for preparation of interim accounts.
4. Perfect coordination should exist between the staff responsible for the financial and cost aspects of the accounts and an efficient processing of accounting documents should be ensured.

Under this system there is no need for a separate cost ledger. Of course, there will be a number of subsidiary ledgers; in addition to the useful Customers Ledger and the Bought Ledger, there will be : (a) Stores Ledger; (b) Stock Ledger and (c) Job Ledger.

Q.5 What are the advantages of integrated accounting?

(Nov., 1997, May, 2002, 4 marks)

Ans. Advantages of Integrated Accounting :

Integrated Accounting is the name given to a system of accounting whereby cost and financial accounts are kept in the same set of books. Such a system will have to afford full information required for Costing as well as for Financial Accounts. In other words, information and data should be recorded in such a way so as to enable the firm to ascertain the cost (together with the necessary analysis) of each product, job, process, operation or any other identifiable activity. For instance, purchases are analysed by nature of material and its enduses. Purchase account is eliminated and direct postings are made to Stores Control Account, Work-in-Progress account, or Overhead Account. Payroll is straightway analysed into direct labour and overheads. It also ensures the ascertainment of marginal cost, variances, abnormal losses and gains. In fact all information that management requires from a system of Costing for doing its work properly is made available. The integrated accounts give full information in such a manner so that the profit and loss account and the balance sheet can be prepared according to the requirements of law and the management maintains full control over the liabilities and assets of its business.

The main advantages of Integrated Accounting are as follows :

- (i) Since there is one set of accounts, thus there is one figure of profit. Hence the question of reconciliation of costing profit and financial profit does not arise.
- (ii) There is no duplication of recording of entries and efforts to maintain separate set of books.
- (iii) Costing data are available from books of original entry and hence no delay is caused in obtaining information.
- (iv) The operation of the system is facilitated with the use of mechanized accounting.
- (v) Centralization of accounting function results in economy.

Q.6 What do you understand by integrated accounting system? State its advantages and pre-requisites.

Ans. Integrated (or Integral) Account is the name given to a system whereby cost and financial accounts are kept in the same set of books. Obviously, then there will be no separate sets of books for Costing and Financial purposes. Integrated Accounts will have to afford full information required for Costing as well as for Financial Accounts. In other words, information and data should be recorded in such a way as to enable the firm to ascertain the Cost (together with the necessary analysis) of each product, job, process, operation or any other identifiable activity. For instance, purchases are analysed by nature of material and its enduses. Purchase accounts are eliminated and direct postings are made to Stores Control Account, Work-in-Progress Account, or Overhead Account. Payroll is straightway analysed into direct labour and overheads. It also ensures the ascertainment of marginal cost, variances, abnormal losses and gains - in fact, all information that management requires from a system of Costing for doing its work properly. The integrated accounts give full information in such a manner so that the profit and loss account and the balance sheet can be prepared according to the requirements of law and the management maintains full control over the liabilities and assets of its business.

The main advantages of Integrated Accounts are as follows:

- (1) Since there is one set of accounts, thus there is one figure of profit. Hence the question of reconciliation of costing profit and financial profit does not arise.
- (2) There is no duplication of recording of entries and efforts in the separate set of books.
- (3) Costing data are available from books of original entry and hence no delay is caused in obtaining information.
- (4) The operation of the system is facilitated with the use of mechanized accounting.
- (5) Centralization of accounting function results in economy.

The essential pre-requisites for integrated accounts include the following steps.

1. The management's decision about the extent of integration of two sets of books. Some concerns find it useful to integrate upto the stage of primary cost or factory cost while others prefer full integration of the entire accounting records.
2. A suitable coding system must be made available so as to serve to accounting purposes of financial and cost accounts.
3. An agreed routine, with regard to the treatment of provision for accruals, prepaid expenses, and other adjustments necessary for preparation of interim accounts.
4. Perfect co-ordination should exist between the staff responsible for the financial and cost aspects of the accounts and an efficient processing of the accounting documents should be ensured.

Chapter 6

MATERIAL

THEORY

SHORT QUESTIONS

Q.1 Write short notes on: ABC analysis. (1996, 2000, 1993, 2004, 2005) CA-P.E.II

Ans. ABC Analysis It is a system of inventory control. It exercise discriminating control over different items of stores classified on the basis of the investment involved. Usually the items are divided into three categories according to their importance, namely, their value and frequency of replacement during a period.

- (i) 'A' category of items consists of any small percentage i.e. about 10% of the total items handled by the stores but requires heavy investments about 70% of inventory value, because of their high prices and heavy requirement.
- (ii) 'B' category of items are relatively less important; they may be 20% of the total items of material handled by stores. The percentage of investment required is about 20% of the total investment in inventories.
- (iii) 'C' category of items do not require much investment; it may be about 10% of total inventory value but they are nearly 70% of the total items handled by store.

'A' category of items can be controlled effectively by using a regular system which ensures neither over—stocking nor storage of materials for production. Such a system plans its total materials requirements by making budgets. The stocks of materials are controlled by fixing certain levels like, maximum level, minimum level and re — order level. A reduction in inventory management costs is achieved by determining economic order quantities after taking into account ordering cost and carrying cost. to avoid shortage and to minimize heavy investment in inventories, the techniques of value, analysis reduction, standardization, may be used.

In the case of 'B' category of items, as the sum involved is moderate, the same degree of control as applied in 'A' category of items is not warranted. The orders for the items, belonging to this category may be placed after reviewing their situation periodically.

For 'C' category of items, there is no need of exercising constant control. Orders for items in this group may be placed either after six months or once in a year, after ascertaining consumption requirements. In this case the objective is to economics is to economics on ordering and handling costs.

The advantages of ABC analysis are the following:

- (i) It ensures that, without there being any danger of interruption of production for want of materials or stores, minimum investment will be made on inventories of stock of materials or stocks to be carried.
- (ii) The cost of placing orders, receiving goods and maintaining stocks is minimized specially if the system is coupled with the determination of proper economics order quantities.
- (iii) Management time is saved since attention need be paid only to some of the items rather than all the items as would be the case if the ABC system was not in operation.
- (iv) With the introduction of the ABC system, much of the work connected with purchases can be systematized on a routine basis to be handled by sub — ordinate staff.

Q.2 Write notes on: Bill of Material

1987, 1998—May

Ans. In most of the manufacturing units a list of materials required for a particular work or job order is prepared. Such a list is usually prepared either by the engineering or production planning department. This list is known as a bill of material. Bill of material has code; description and quantity of material and other stores items required for carrying out a particular work or job order. It also acts as an authorization for the issue of materials and stores items mentioned in it. Use of Bill of Materials save paper work and also ensures requisition of the exact quantity of material. It also saves the botheration of stores people of preparing and issuing a number of material requisition slips. It also acts as an advance intimation to stores and purchase departments about the requirements of materials.

Generally four copies of it are prepared, one for each of the following departments

- (a) Stores departments
- (b) Production departments
- (c) Cost accounts departments
- (d) Production planning departments

DISTINGUISH BETWEEN

Q.3 Distinguish between : Perpetual Inventory and continuous Stock taking.

1996-Nov (CA Inter – 2001, 2006)

Ans. Perpetual inventory is a system in which a continuous record of receipt and issue of materials is maintained by the stores department. In this system the stock control cards, bin cards and stores ledger show the receipts, issue and balance of each item at any point of times after each transaction. The stocks also per dual records namely Bin card and stores ledger are reconciled on a continuous basis. The system facilitates planning and control.

Continuous stock taking is a system of physical verification of stocks of each item on continuous bases. The actual quantity on the bin card is compared with bin balances. Such a verification is conducted round the year such that all items of stocks are verified 3 to 4 times in a year. Any discrepancies are investigated and reported for corrective action. It also serves as a moral check on stores staff and acts as deterrent to dishonesty. A perpetual inventory system is usually supported by continuous stock taking. It calls for up-to-date writing up of stores ledger and bin cards and stock control cards. The balances as per bin card and stores ledger are compared when every receipt or issue is posted. The physical balance on continuous stock taking is also compared with the bin card or ledger balances. Thus monthly accounts can be prepared with confidence.

Q.4 Distinguish clearly Bin cards and Stores Ledger.

(2000, 2002, 2003, 1999)

Ans. Both bin cards and stores ledger are perpetual inventory records. None of them is a substitute for the other.

These two records may be distinguished from the following point of view:

- (a) Bin card is maintained by the store keeper, while the stores recording document whereas the stores ledger is an accounting record.
- (b) Bin card is the stores recording documents whereas the stores ledger is an accounting record.
- (c) Bin card contains information with regard to quantities i.e. their receipt, issue and balance while the stores ledger contains both quantitative and value information in respect of their receipts, issue and balance.
- (d) In the bin card entries are made at the time when transactions take place. But in the stores ledger entries are made only after the transactions have taken place.
- (e) Inter departmental transfers of materials appear only in stores ledger.
- (f) Bin cards record each transaction but stores ledger records the same information in a summarized form.

DESCRIPTIVE QUESTIONS

Q.5 What is Economic Order Quantity?

1994— May

Ans. **Economic order quantity :-** Economic order quantity represents the size of the order for which both order, ordering and carrying costs together are minimum. If purchases are made in large quantities, inventory carrying cost will be high. If the order size is small, ordering cost will be high. Hence, it is necessary to determine the order quantity for which ordering and carrying costs are minimum. The formula used for determining economic order quantity is as follows:

$$EOQ = \sqrt{\frac{2AO}{C}}$$

Where,

A is the annual consumption of material in units.

O is the cost of placing an order (ordering cost per unit)

C is the cost of interest and storing one unit of material for the one year (carrying cost per unit per annum).

Q.6 How does a bill of material differ from a material requisition notes? Explain the purpose of each. 1994 – May

Ans. Bill of material :- It is a list of material required either for a particular job or for a work order. It contains the description; code and quantity of materials and other stores items required for a particular job or work order. It serves as an advance intimation to stores department about the requirement of materials. It acts as an authorization for the issue of all materials and stores items mentioned in the bill of materials. Its use reduce pupae work and assures requisition of the exact quantity of material to the user departments.

Material requisition note :- It is a formal request, for the supply of specified materials, stores etc. to the production departments for a specific job or work order. it authorizes the issuing departments to draw from stores the requisitioned materials. Such notes contains information about the description, code and quantity of materials needed. It also has job/work order number for which the material has been requisitioned. This note is signed by the foreman of the concerned departments.

Q.7 "To be able to calculate a basic EOQ certain assumptions are necessary". List down these assumptions. 1995 – Nov

Ans. The computation of economics order quantity is subject to the following assumptions.

- (i) Ordering cost (per order) and carrying cost (per unit! annum) are known and constant.
- (ii) Anticipated usage (in units) of material for a period is uniform and known.
- (iii) Cost per unit of the material (to be purchased) is known and it is constant.

Q.8 What is a purchase requisition? (Give a specimen form of a purchases requisition?)

- Ans.**
- (a) A purchase requisition is a form used for making a formal request to the purchasing department to purchase materials. Purchase requisitions are usually initiated by
 - (i) A store department for regular and standard items held in the stock.
 - (ii) The production control department for special material required for specific job's.
 - (iii) The maintenance department for maintenance equipment and items of capital expenditure.
 - (iv) The heads of departments for office equipments.

The aforesaid arrangement is only a matter of convenience. In some concerns distinction is made between regular indents and special indents, depending upon whether the items are needed for replacing stocks or for special orders. But both types of indents are initiated by the stores department. Irrespective of the difference regarding the procedure for initiating purchase

requisition, the purchase manager should have with him a list of the persons authorised to requisition materials.

Each purchase requisition should clearly state the quantity, quality and other specifications in the appropriate column of the given specimen form along with the purpose for which materials are required. It should also indicate the date by which such materials are needed.

Depending upon the procedure to be followed appropriate number of copies of the purchase requisitions may be prepared and used accordingly. A specimen form of purchase requisition is given below:

A Specimen form of purchase requisition

Date_____ For Stock _____ Date of requirement_____

Req. No._____ Dept. or work order No._____

Sl.No.	Code No.	Description	Quantity	Grade	Remarks
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Requisitioned by _____ Checked by _____ Approved by _____

For Purchase Department use

Purchase Order No. _____ Date of Purchase _____

Name of Supplier _____ Expected date of delivery _____

Q.9 What is just in Time (JIT) purchase? What are the advantages of such purchases? 1999— May

Ans. Just in time (JIT) purchases means the purchase of goods or materials such that delivery immediately precedes their use.

Advantages of JIT purchases:

Main advantages of JET purchases are as follows:

1. The suppliers of goods or materials co-operates with the company and supply requisite quantity of goods or materials for which order is placed before the start of production.
2. JIT purchases results in cost savings for example, the costs of stock out, inventory carrying, materials handling and breakage are reduced.
3. Due to frequent purchases of raw materials, its issue price is likely to be very close to the replacement price. Consequently the method of pricing to be followed for valuing material issues becomes less important for companies using ITT purchasing.
4. JIT purchasing are now attempting to extend daily deliveries to as many areas as possible so that the goods spend less time in warehouses or on store shelves before they are exhausted.

Q.10 What is material handling cost? How will you deal it in cost accounts?

1999—May

Ans. **Material handling over** : It refers to the expenses involved in receiving, storing, issuing and handling materials. To deal with this cost in cost accounts there are two prevalent, approaches as under:

First approach suggests the inclusion of these costs as part of the cost of materials by establishing a separate material handling rate e.g. at the rate of percentage of the cost of material issued or by using a separate material handling rate which may be established on the basis of weight of materials issued.

Under another approach these costs may be included along with those of manufacturing overhead and be charged over the products on the basis of direct labour or machine hours.

- (b) At the time of physical stock taking, it was found that actual stock level was different from the clerical or computer records. What can be possible reasons for such differences? How will you deal with such differences?

Ans. Possible reasons for differences arising at the time of physical stock taking may be as follows when it was found that actual stock level was different from that of the clerical or computer records:

- (i) Wrong entry might have been made in stores ledger account or bin card.
- (ii) The items of materials might have been placed in the wrong physical location in the store.
- (iii) Arithmetical errors might have been made while calculating the stores balances on the bin cards or store ledger when a manual system is operated.
- (iv) Theft of stock.

When a discrepancy is found at the time of stock taking, the individual stores ledger account and the bin card must be adjusted so that they are in agreement with the actual stock. For example, if the actual stock is less than the clerical or computer record the quantity and value of the appropriate store ledger account and bin card (quantity only) must be reduced and the differences in cost be charged to a factory overhead account for stores losses.

Q.11 Discuss the accounting treatment of defectives in cost accounts. 2000 – May

Ans. Accounting treatment of defective sin cost accounts:

Defectives refers to those units or portions of production, which do not meet the prescribed specifications. Such units can be reworked r re-conditioned by the use of additional material, labour and I or processing and brought to the point of either standard or sub-standard units.

The possible ways of treating defectives in cost accounts are as below:

1. When defectives are normal and it is not beneficial to identity them job-wise, then the following methods may be used.
 - (a) **Charged to good products:** The cost of rectification of normal defectives is charged to good units. This method is used when defectives rectified are normal.
 - (b) **Charged to general overheads:** If the department responsible for defectives cannot be identified, the rework costs are charged to general overheads.
 - (c) **Charged to departmental overheads:** If the department responsible for defectives can be correctly identified, the rectification cost should be charged to that department.
2. When normal defectives are easily identifiable with specific job the rework costs are debited to the identified job.

3. When defectives are abnormal and are due to causes within the control of the organisation, the rework cost should be charged to the Costing Profit and Loss Account.

I. C. W. A. / C S I B. - COM. (H)

inventory Control.

(B.Com. — (H) - 1999)

12. Indicate whether the following statement are True or False, giving reason in one or two lines. 1997

- (1) According to LIFO method of pricing, issues are close to current economics values.
- (2) Perpetual inventory system means continuous stocks taking.
- (3) Under the ABC analysis of material control, 'A' stands for the highest.

- Ans.** (i) True, Issue of materials are made from the latest purchases.
(ii) False, Continuous stock taking is a part of perpetual inventory system.
(iii) False, 'A' stands for highest value items.

Chapter 7

LABOUR

THEORY

SHORT QUESTIONS

Q.1 Write short notes on: Labour Turnover.

(1994, 1996, 2003)

- Ans. Labour Turnover:** - Leaving and coming of workers in business organization gives rise to the phenomenon of labour turnover. Labour turnover of an organization is the rate of change in its labour force during a specified period. This rate of change is compared with an index which acts as there meter to ascertain its reasonableness. The suitable index of labour turnover may be the standard or usual labour turnover in the industry or locality, or the labour turnover rate for a past period. A higher labour turnover reflects that the workers in the organization are new and inexperienced, and it is a matter of concern to the organization. Also it accounts for an increase in cost of production end even disturbs the even flow of production in the market.

To measure labour turnover, the following three methods, viz., (i) Separation method; (ii) Replacement method and (iii) Flux method are available. Each method emphasizes on different aspects. But it is expected from business concern that a particulars method may be used consistently to facilitates comparison of data from year to year. Labour turnover may be calculated by using any one of the following formulae:-

Number of employees replaced

$$\text{Labour turnover} = \frac{\text{Number of employees left}}{\text{Average number of employees on roll}} \times 100$$

OR

$$\text{Labour turnover} = \frac{\text{Number of employees left}}{\text{Average number of employees on roll}} \times 100$$

OR

$$\text{Labour turnover} = \frac{\text{Number of Joining plus number of leaving}}{\text{Average number of employees on roll}} \times 100$$

Causes of Labour turnover :- the main causes of labour turnover in an organization/ industry can be broadly classified under the following heads:

- (a) Personal causes
- (b) Unavoidable causes
- (c) Avoidable causes

Remedial steps to minimize labour turnover. The following remedial steps are useful in minimizing labor turnover.

- (a) Exit Interview
- (b) Job analysis and evaluation
- (c) Scientific system of recruitment, selection, placement and promotion.
- (d) Enlightened attitude of management
- (e) Use of committee.

Q.2 Discuss the two types of cost associated with labour turnover

(2003, 1999 - Nov)

Ans. Two types of cost which are associated with labour turnover are :-

- (1) **Preventive costs :-** These include costs incurred to keep the labour turnover as a low level i.e., cost of medical schemes. If a company incurs high preventive cost. The rate of labour turnover is usually low.
- (2) **Replacement costs :-** These are the costs which arise due to high labour turnover. If men leave soon after they acquire the necessary training and experience of work, additional costs will have to be incurred on new workers, i.e. cost of advertising, recruitment, selection, training and induction etc. caused due to the inefficiency and inexperienced new workers.

It is obvious that a company will incur very high replacement costs if the rate of labour turnover is high. Similarly, only adequate preventive costs can keep labour turnover at a low level. Each company must, therefore, workout the optimum level of labour turnover keeping

in view its personnel politics and the behavior of replacement costs and preventive costs at various levels of labour turnover rates.

Q.3 What is impact of 'Labour Turnover' on a manufacturing organization's working? (1998 - Nov)

Ans. Labour turnover refers to the rate of change in the composition of labour force of a concern during a specified period of time. The impact of labour turnover on a manufacturing organisation's working is manifold.

- (a) Even flow of production is disturbed.
- (b) Cost of recruitment and training increases.
- (c) Breakage of tools, wastage of material increases.
- (d) Overall production decreases due to the time lost between the leaving recruitment of new workers.
- (e) Reduction in sales accounts for loss of contribution and goodwill consequently.

DISTINGUISH BETWEEN

Q.4 Distinguish Between and Merit rating. (1996, 1999, 2001, 1994)

Job evaluation

Ans. Job evaluation and merit rating :-

The main points of distinction between job evaluation and merit rating are as follows :-

- (1) Job evaluation is the ascertainment of the relative of jobs within a company and merit rating is the assessment of the relative worth of the man behind a job. In other words, merit rating rates employees on their job while job evaluation rates the jobs.
- (2) Job evaluation and its accomplishments are meant to set up a rational wage and salary structure whereas merit rating provides a scientific basis for determining fair wages for each worker based on his ability and performance.
- (3) Job evaluation simplifies wage administration by bringing a uniformity in wage rates. On the other hand, merit rating is used to determine fare rate of pay for different workers on the basis of their performance.

Q.5 Distinguish between the following : (1997 - May)
Casual worker and outworker.

Ans. Casual worker and outworker :-

A worker who is appointed for a short duration to carry on normal business activities in place of regular but temporarily absent worker. Such a worker is also known as daily wagger or 'bad lies'. A casual worker do not enjoy the facilities available to a regular worker.

A worker who does not work in the factory premises but either he works in his home or at a site outside the factory is known as an outworker. An outworker who works in his home is usually compensated on the basis of his home is usually compensated on the basis of his output. He is supplied with raw materials and tools necessary for carrying out the job. An outworker (outside the factory) is usually on specialized jobs/contract work

Q.6 Explain the meaning of and the reasons for "idle Time" and discuss its treatment in cost accounts. (2000) 1994 - Nov

Ans. Idle time refers to the labour time paid for but not utilized on production. It, in fact, represents the time for which wages are paid, but during which no output is given out by the workers. This is the period during which no output is given out by the workers. This is the period during which workers remain idle.

Reasons for idle time:- According to reasons, idle time can be classified into normal idle time and abnormal idle time. Normal idle time is the time which cannot be avoided or reduced in the abnormal course of business.

The main reasons for the occurrence of normal idle time are as follows :-

2. time taken by workers to travel the distance between the main gate of factory and the place of their work.
3. time lost between the finish of one job and starting of next job.
4. time spent to overcome fatigue.
5. time spent to meet their personal needs like taking lunch, tea, etc.

The main reasons for the occurrence of abnormal idle time are :-

1. Due to machine break downs, power failure, non - availability of raw materials, tools or waiting for jobs due to defective planning.
2. Due to conscious management policy decision to stop work for some time.
3. In the case of seasonal goods producing units, it may not be possible for them to produce evenly throughout the year. Such a factor too results in the generation of abnormal idle time.

Treatment in cost accounting :- Idle time may be normal or abnormal

Normal idle time :- It is inherent in any job situation and thus it cannot be eliminated or reduced.

The cost of normal idle time should be charged to the cost of production. This may be done by inflating the labour rate. It may be transferred to factory overheads for absorption, by adopting a factory overhead absorption rate.

Abnormal idle time :- It is defined as the idle time which arises on account of abnormal causes e.g. strikes, lockouts; floods; etc. such an idle is uncontrollable.

The cost of abnormal idle time due to any reason should be charged to costing profit and account.

(b) Discuss the objectives of time keeping and time booking?

Ans. Objectives of time keeping and time booking :- Time keeping has the following two objectives

- (a) **Preparation of Payroll:-** Wages bills are prepared by the payroll departments on the basis of information provided by the time keeping departments.
- (b) **Computation of cost :-** Labour cost of different jobs, departments or cost centers are computed by costing departments on the basis of information provided by the time keeping department.

The objectives of time booking are as follows :-

- (a) To ascertain the labour time spent on the job and the idle labour hours.
- (b) To ascertain labour cost of various jobs and products.
- (c) To calculate the amount of wages and bonus payable under the wage incentive scheme.
- (d) To compute and determine overhead rates and absorption of overheads under the labour and machine hour method.

Q.7 What is overtime premium? Explain the treatment of overtime premium in cost accounting. Suggest steps for controlling overtime. (1995 - Nov)

Ans. Overtime premium :- Overtime is the amount of wages paid for working beyond normal working hours as specified by Factories Act by a mutual agreement between the workers union and the management. According to Factories Act of 1948, a worker is entitled for overtime at double the rate of his wages (including allowances) if he works beyond 9 hour in a day or 48 hours in a week. Even where the act is not applicable, the practice is to pay for overtime work at higher rates usually in accordance with a standing agreement between the employer and the workers. Hence, payment of overtime consists of two elements, the normal wages i.e., the usual amount, and the extra payments i.e. the premium. This amount of extra payments paid to a workers under overtime is known as overtime premium.

Treatment of overtime premium in cost accounting

- (a) If the overtime is incurred at the desire of the customer, then the entire amount of overtime including overtime premium should be charged to the job directly.
- (b) If it is due to a general pressure of work to increase the output, the premium as well as overtime wages may be charged to general overheads.
- (c) If it is due to the negligence or delay of workers of a particular departments, it may be charged to the concerned department.
- (d) If it is due to circumstances beyond control, it may be charged to costing profit and loss account.

Steps for controlling overtime:-

Important steps for controlling overtime work are as follows:-

- (1) Entire overtime work should be duly authorized after investigating the reasons for it.
- (2) Overtime cost should be shown against the concerned departments. Such a practice should enable proper investigation and planning of production in future.
- (3) If overtime is a regular features, the necessity for recruiting more men and adding shift should be considered.
- (4) If overtime is due to lack of plant and machinery or other resources, steps may be taken to install more machines, or to resorts to sub - contracting.

Q.8 What do you mean by time and motion study? Why is to so important to management? (1999 - May)

Ans. Time and motion study :- it is study of time taken and motions (movements) performed by workers while performing their jobs at the place of their work. Time and motion study has played a significance role in controlling and reducing labour cost. Time study is concerned with the determination of standard time required by a person of average ability to perform a job. Motion study on other hand, is concerned with determining the proper method of performing a job so that there are no wasteful movements, hiring the worker unnecessarily. However, both the studies are conducted simultaneously. Since materials, tools equipment and general arrangements of work, all have vital bearing on the method and time required for its completion. Therefore, their study would be uncompleted and would not yield its full benefit without a proper consideration of these factors.

Time and motion study is important to management because of the following features:-

1. Improved methods, layout, and design of work ensures effective use of men, materials and resources.
2. Unnecessary and wasteful methods are pin - pointed with a view to either improving them or crminating them altogether. This leads to reduction in the work content of an operation, economy in human efforts and reduction fatigue.
3. Highest possible level of efficiency is achieved in all respect.
4. Provides information for setting labour standards - a steps towards labour costs control and cost reduction.
5. Useful for fixing wage rates and introducing effective incentive scheme.

Q.9 Discuss the effect of overtime payment on productivity. (2001 - Nov.)

Ans. Overtime work should be restored to only when it is extremely essential because it involves extra cost. The overtime payments increase the cost of production in the following ways.

1. The overtime premium paid is an extra payment in addition to the normal rate.
2. Time and thus the output during normal output.

3. In order to earn more the workers may not concentrate on work during normal time and thus the output during normal hours may also fall.
4. Reduction output and increased premium of overtime will bring about an increase in costs of production.

Q.10 State the circumstances in which in which time rate system of wage payment can be preferred in a factory. (2001 - Nov)

Ans. Circumstances in which time rate system of wage payment can be preferred:

In the following circumstances the time rate system of wage payment is preferred in a factory:

- (a) Persons whose services cannot be directly or tangibly measured, e.g. general helpers, supervisory and clerical staff etc.
- (b) Workers engaged on highly skilled jobs or rendering skilled services, e.g. tool making, inspection and testing.
- (c) Where the pace of output is independent of the operator, e.g. automatic chemical plants.

Q.11 How are payments to workers in respect of over-time work and set-up time treated in cost Account? (1997)

Ans. Overtime Wages. Sometimes workers work for an extra time over and above the normal hours of work. According to the Indian Factories Act 1948, overtime is the time worked for more than nine hours per day or 48 hours per week. Usually, for overtime has to be paid double the normal rate of payment. This coupled with the fact that overtime comes at the end of the day, when fatigue has set in, should make it clear that the jobs done in overtime are rather costly. This is because of higher rate of wage payment, low productivity and additional expenses on lighting etc. The Production manager or some higher authority should authorize the overtime because there is a danger that workers may develop that as a habit.

The following treatment should be given to overtime wages in the following cases :

- Overtime required because of some abnormal conditions like floods, earthquakes etc. should be charged to Costing Profit & Loss A/c.
- Overtime when required for seasonal pressure should be taken as an item of factory overheads.
- When overtime is direct i.e. can be identified with individual jobs, it should be charged entirely to that particular job or work/order concerned.
- When Overtime is required to make with any shortfall in production due to some fault of management or some unexpected development, it should be charged to Costing Profit & Loss A/c.

Q.12 Indicate whether the following statement are True or False, giving reason in one or two lines: 1998

(i) Waste can be realized but scrap cannot be realized.

Ans. False. Scrap can be realized but not the waste.

16 Indicate whether the following statements are True or False: 1998

(i) Overtime premium paid to all factory workers is usually considered direct labour.

(ii) Period costs are invariable and re expenses out as and when the inventory is sold.

(iii) Idle facility and idle time are the same.

Ans. (i) False

(ii) False

(iii) False

Q.13. State the purpose served by the Time Keeping and Time booking records of a factory. 2000

Ans. Time keeping and Time booking records serve the following purposes:

(i) It completes the attendance records of the company

(ii) It helps in calculating the wage/salaries of workers.

(iii) Labour cost of each job can be easily calculated.

(iv) It helps in exercising control on labour time and productivity.

Ans. **Normal Idle Time.** The Normal idle time is almost **unavoidable** and the employer has to bear its cost. This is the time lost in -

- coming from the gate of the factory to the department in which the worker is engaged; or
- going from one job to another; or
- getting from the department to the factory gate at the closing times or intervals; or
- personal needs and tea-breaks

Such normal idle time is calculated by comparing the 'time card' with the '**job card**' and it may be treated in any these two ways :

- It may be treated as an overhead expense because no particular job has benefited out of it; or
- The jobs should be charged at a rate higher than the actual rate paid to the worker in order to recover the cost of the normal idle time.

Out of these the second method is better. It is so because under the first method if the wages paid for idle time are treated as 'overheads' then even those jobs, which have not used this class of workers, have to bear a part of the overheads.

Abnormal Idle Time. Such abnormal idle time arises because of the following causes :

- Strikes
- Lock-outs
- Machinery break-down or power failure
- Non-availability of jobs or materials

The abnormal idle time may be treated as a loss rather than a cost. Hence, it may be charged to the '*Closing Profit & Loss Account*'.

Chapter-8
OVERHEADS

Meaning of overhead

- Overhead costs are the operating costs of a business enterprise which cannot be traced directly to a particular unit of output.
- Overhead may be defined as the cost of indirect materials, indirect labour and such other expenses including services as cannot conveniently be charged direct to specific cost units.
- C.I.M.A., London, Terminology gives a very simple definition of overhead as "an aggregate of indirect materials, indirect wages and indirect expenses."

Difference between allocation and apportionment of overheads.

(C.A Inter May 1994)

Allocation of overheads:-

Allocation is the process of charging the full amount of overhead costs to a particular cost centre. This is possible when the nature of expenses is such that it can be easily identified with a particular cost centre. For example, the salary paid to a foreman of a particular production department can be directly identified with that department and therefore it will be directly charged to that department.

Apportionment of overheads:-

It is process of splitting up an item of overhead cost and charging it to the cost centers on an equitable basis. This is done in case of those, overhead items which can't allocated to a particular department. For example salary paid to the works manager of the factory cannot be charged wholly to a particular production department but will have to be charged to all departments of the factory on an equitable basis.

Give some bases of Allocation & Apportionment of O/H.

1.	1.	Overhead Costs	Bases of Apportionment
2.	2.	Rent	Flora area
3.	3.	Repair and maintenance of building	Flora area
4.	4.	Heating and lighting	Flora area
5.	5.	Air conditioning	Flora area
6.	6.	Indirect material	Direct material
7.	7.	Depreciation	Asset Value
8.	8.	Insurance	Asset Value
9.	9.	Repair and maintenance of plant	Asset Value
10.	10.	Supervision	Number of workers
11.	11.	Supervision	Number of workers

12.	12.	Canteen expenses	Number of workers
13.	13.	Employee welfare expenses	Number of workers
14.	14.	Personnel overheads	Number of workers
15.	15.	Indirect Labour	Direct Labour /Wage Bill
16.	16.	Employer's contribution to PF & ESI	Direct Labour /Wage Bill
17.	17.	Workmen compensation	Direct Labour / Wage Bill
18.	18.	Stores overhead	Number of material requisition
19.	19.	Misc. expenses	Direct material or direct labour or prime cost
20.	20.	Crane expenses	Number of hours crane worked in departments
21.	21.	General overheads	labour hours or machine hours
22.	22.	General machine expenses	Value of plant & machinery
23.	23.	Power	Horse power of machine or H.P x hours worked
24.	24.	Leave with pay	Direct Labour / Wage bill
25.	25.	Gratuities	Direct Labour /Wage Bill

Service Department

Bases of Apportionment

1.	Stores Deptt.	No.of material requisitions
2.	Personal Deptt.	No. of employees
3.	Purchase Deptt.	Value of materials purchased or No.of purchase orders
4.	Welfare Deptt.	No. of employees
5.	External transport	Ton miles, truck miles, no. of package
6.	Tool room expenses	Direct labour hours
8.	Inspection expenses	Hours spent on inspection or value of output

SHORT QUESTIONS

Q.1 Write short notes on :

Treatment of interest on capital in cost accounts.

(1997) 1993 - Nov

Ans. Arguments for the inclusion of interest on capital in cost accounts.

- (A) Interest is the cost of capital as wages are the reward for labour. Both are factors of production and, therefore should not be treated differently in cost accounts. While determining the total cost, interest like wages should be included in the cost of production.
- (B) The exclusion of interest from cost accounts, particularly in businesses where raw material is used in different states of readiness would distort costs and render their comparison a difficult one.
- (C) Profit on different jobs/operation requiring different periods for completion may not be comparable if interest on capital is not included in their total cost.
- (D) Sometime exclusion of interest cost may lead the management to take wrong decisions.
- (E) The significance of time value of money is recognized only when interest is treated as an element of cost

Q-2 What is notional rent of a factory building? Give one reason why it may be included in cost accounts. (1995 - Nov)

Ans. Notional Rent :- It is a reasonable charge raised in the cost accounts for the use of owned premises. One reason for the use of such a nominal charge is to enable comparison between the cost of items made in factories which are owned and in rented factories. However, it may be noted that the case of owned factory cost for the same is accounted for by means of depreciation.

Q.3 How do you deal with the following in cost accounts?

- (i) **Research and Development Expenses (2000)**
- (ii) **Fringe Benefits.**

Ans.(i) Reasons and development Expenses: - Research and development expenses are the expenses incurred for searching new or improved products, production methods/ techniques or plants/equipments. Research expenses may be incurred for carrying basic or applied research. Both basic and applied research relates to original investigations to gain from new scientific or technical knowledge and understanding, which is not directed towards any specific practical aim (under basic research) and is directed towards a specific practical aim or objective (under applied research).

Treatment in cost accounts :- expenses of basic research (if it is a continuous activity) be charged to the revenues of the concern. It may be spread over a number of years if research is not a continuous activity and amount is large. Expenses of applied research, if relates to all existing products and methods of production then it should be treated as a manufacturing overheads of the periods during which it has been incurred and absorbed. Such expenses are directly charged to the product, if it is solely incurred for it.

If applied research is conducted for searching new product or methods of production etc., then the research expense treatment depends upon the outcome of such research.

Development expenses begins with the implementation of the decision to produce a new or improved product or improved method. The treatment of development expenses is same as that of applied research.

- (ii) Fringe benefits :- In every organization, workers are paid some benefits in addition to their normal wage or salary. These additional benefits are popularly called benefits. They include:
- (a) Housing
 - (b) Children education allowances
 - (c) Holiday pay
 - (d) Leave pay
 - (e) Leave travel concession to home town or any place in India etc.

Expenses incurred on factory workers should be treated as factory overheads and apportioned among the production and services departments on the basis of number of workers in each department.

Fringe benefits to office and selling and distribution staff be treated as administration overheads and selling and distribution overheads respectively and recovered accordingly.

Q.4 What is blanket overheads rate? In which situations, blanket rate is to be used any why?

Ans. Blanket overheads rate is one single overheads absorption rate for the whole factory. It may be computed by using the following formulae:

$$\text{Blanket overhead rate} = \frac{\text{overhead costs for the whole factory}}{\text{Total units of the selected base}}$$

Situations for using blanket rate:-

The use of blanket rate may be considered appropriate for factories which produces only one major product on a continuous basis. It may also be used in those units in which all products utilize same amount of time in each department. If such conditions do not exist, the use of blanket rate will give misleading results in the determination of the production cost, specially when such a cost ascertainment is carried out for giving quotations and tenders.

Discuss in brief three main methods of allocating support departments costs to operating departments. Out of these three, which methods is conceptually preferable?

Q.5 How do you deal with the following in cost accounts?

(1) Bad debts.

Ans. Bad Debts:- There is no unanimity among various author about the treatment of bad debts. Some authors believe that bad debts are financial losses and therefore should not be included in the cost of a particular product or job. Another view is that, bad debts are a part of selling and distribution overheads, especially where they arise in the normal course of trading. Therefore they should be treated in cost accounts in the same way as any other selling and distribution expenses.

Q.6 Explain

(1) Training costs.

Ans. Training costs:- these costs comprises of— wages and salaries of the trainees or learners, pay and allowances of the training and teaching staff, payments of fees etc. for training or for attending courses of studies sponsored by outside agencies and cost of materials, tools and equipments used for training, costs incurred for running the training department, the losses arising due to the initial lower production, extra spoilage etc. occurring while providing training facilities to the new recruits. All these costs are booked under separate standing order numbers for the various functions. Usually there is a service cost center, known as the training sections, to which all the training costs are allocated. The total cost of training section is thereafter apportioned to production centers.

Q.7 Explain:

Single and multiple overheads rates.

Ans. Single overhead rate :- it is one single overhead absorption rate for the whole factory. It may be computed as follows:

$$\text{Single overhead rate} = \frac{\text{Overhead costs for the entire factory}}{\text{Total quantity of the base selected}}$$

The base can be total output, total labour hours, total machines hours etc. The single overhead rate may be applied in factories which produces only one major product on a continuous basis. It may also be used in factories where the work perform in each department is fairly uniform and standardized.

Multiple overheads rates:- it involves computations of separate rates for each production department, services departments, cost center and each product for both fixed and variable overheads, it may be computed as follows:-

$$\frac{\text{Overhead allocated / apportioned to}}{\text{each departments cost center or product}}$$

Multiple overheads rate:- -

Corresponding base

Under multiple overhead rates, jobs or products are charged with varying amount of factory overheads depending on the type and number of departments through which they pass. However the number of overheads rates which a firm may compute would depend upon two opposing factors viz., the degree of accuracy desired and the clerical cost involved.

Q.8 Indicate whether the following statements are true or false, giving reason in one or two lines:

(i) Fixed cost does not change in the same proportion in which output changes.

Ans. True. Total fixed cost does not change when output changes.

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CHAPTER-9
JOB AND BATCH COSTING
JOB COSTING

DISTINGUISH BETWEEN

Q.1 Distinguish between

Job costing and process costing. (1996 - Nov)
(1998)(B.com(H) - 2000)

Answer:

Job Costing	Process Costing
1. Job costing is specific order costing.	1. Process costing is a method of costing used to ascertain the cost of a product at each process or stage of manufacture.
2. Cost here is determined on job basis.	2. Costs are accumulated for each process separately for a given period of time.
3. Each job needs special treatment and no two jobs are like.	3. Finished products of one process becomes the raw materials for the next process.
4. The cost of each job is compiled separately by adding materials, labour and overheads costs.	4. The unit cost here is the average cost of the process for a given period. Its correct computation requires the measurements of production at various stages of manufacture.
5. Costs are computed when job is completed.	5. Costs are computed for each process at the end of each period.
6. As each job is distinct or is of different nature, more detailed supervision and control and necessary	6. As the processes operations are standardized, accumulation of costs and supervision and control are comparatively easier.

DESCRIPTIVE QUESTIONS

Q.2 Describe job costing and batch costing giving examples of industries where these are used. (2001-May)

Ans. Job costing : It is a method of costing which is used when the work is undertaken as per the customer's special requirements. When an inquiry is received

form the customer's costs expected to be incurred on the job are estimated and on the basis of the estimate, a price is quoted to the customer. Actual cost of materials, labour and overheads are accumulated and on the completion of job, these actual costs are compared with the quoted price and thus the profit or loss on it is determined.

Job costing is applicable in printing press, hare ware, ship-building, heavy machinery, foundry etc.

Batch costing : It is variant of job costing. Under batch costing, a lot of similar units which comprises the batch may be used as a unit for ascertaining cost. In the case of batch costing separate cost sheets are maintained for each batch of products by assigning a batch number. Cost per unit in a batch is ascertained by dividing the total cost of batch by the number of units produced in that batch.

Such a method of costing is used in the case of pharmaceutical or drug industries, readymade garments industries, industries manufacturing electronics parts of T.V. and radio sets etc.

Q.3 Describe briefly the nature of accounting problems associated with job costing. (2002)

Ans. Job costing : Job costing is used in that type of production where work is done against orders and instructions from customers. To ascertain the cost of each job, a separate account is prepared for each job to ascertain its cost and profit. For this purpose each job is given one job number. Direct materials and wages are charged to each job on actual costs basis while overheads are charged on a pre-determined rate by one of the methods of absorption of overhead. In this way total cost of a job is ascertained. This total cost is compared with the sale price of the job to ascertain profit or loss on the job.

BATCH COSTING

Q.4 Explain in brief the following concepts :

➤ **Batch costing.**

(2001)

Ans. This is a variation of job costing. While job costing is concerned with costing of jobs made to a customer's particular requirements, batch costing is used when production involves limited repetition work and a definite number of articles are manufactured in each batch to be held in stock for sale to customers generally. Thus a batch is cost unit consisting of a group of identical items.

Batch costing is applied in the manufacture of shoes, toys, readymade garments, components parts of, cars, radios, watches, etc.

Q.5 Discuss the concept of Economics Batch Quantity (EBQ).

Ans. Economics batch Quantity : production is usually done in batches and each batch can have any number of units of a components in it. The optimum quantity for a batch is that quantity for which the setting up and carrying costs are minimum. Such an optimum quantity is known as "Economic batch quantity". The formula used to determine the economic batch quantity (EBQ) is :

$$\text{Economic Batch Quantity} = \sqrt{\frac{2 \cdot U \cdot S}{C}}$$

where,

EBQ = Economics batch quantity

U = Demand of the components in a year

S = Setting up cost per batch

C = Carrying cost p.u. per annum.

CHAPTER-10
CONTRACT COSTING
THEORY

➤ **What is contract costing?**

Meaning of Contract Costing

Contract costing is that form of specific order costing under which each contract is treated as cost unit and costs are accumulated and ascertained separately for each contract.

Basic Features of Contract Costing

- (a) Each contract is treated as cost unit.
- (b) All costs are accumulated and ascertained for each contract.
- (c) A separate Contract Account is prepared for each contract and is assigned a certain number by which the contract is identified.
- (d) Work on contracts is usually executed at the site of the contract.
- (e) Direct costs usually constitute a major portion of the total cost of the contract.
- (f) Indirect costs usually constitute a small portion of the total cost of the contract.
- (g) The numbers of contracts undertaken by a contractor at a time is not usually very large.

➤ **In which industries contract costing is applied**

Contract costing is applied in :-

- (a) Industries engaged in the construction of building, roads, bridges or other construction work
- (b) Industries undertaking engineering projects.

Number of parties involved in a contract

There are two parties involved in a contract viz.

- (a) The contractor - the person who undertakes the contract and
- (b) The contractee - the person who assigns the contract.

➤ **Distinction between job costing and contract costing? (May 2005)**

Job costing differs from contract costing in the following respects:

Basis of Distinction	Job Costing	Contract costing
1. Cost unit	Each job is treated as a cost unit.	Each contract is treated as a cost unit.
2. Execution of work	Job work is executed in factory premises.	Contract work is executed at the site of contract.
3. Indirect costs	Indirect costs are higher than those under contract costing.	Indirect costs are lower than those under job costing.
4. Pricing	Pricing is influenced by individual condition and general policy of the organization.	Pricing is influenced by the specific clauses of the contract.
5. Size	Size of a job is smaller than that of a contract.	Size of a contract is larger than that of a job.
6. Number	The numbers of jobs are usually large.	The number of contracts undertaken are usually small.

Meaning of work certified

Work certified is that portion of the work completed which has been certified / approved by the contractee's architect or surveyor. It is valued in terms of contract price.

Meaning of work uncertified

Work uncertified is that portion of the work completed which has not been certified / approved by the contractee's architect or surveyor. It is valued at cost.

Q.1 Write short notes on :-

Escalation clauses

(2000, 2002, 1995-May)

Ans. This clause is always provided in a contract to safeguard the interest of the contractor against any rise in price of materials and rates of labour and their increased utilization. If the prices of materials and rates of labour increase during the period of the contract beyond a certain

defined level, the contractor will be compensated to the extent of a portion thereof. The contractor has to satisfy the contractee about his claim for compensation in respect of prices and utilization of material and labour.

Q.2 Write notes on :-

(1) Cost - Plus - Contracts (1996,2000 - Nov)

Ans. Main features of cost - plus - contracts:

The main features of cost - plus contracts are as follows:-

1. This method is adopted in the case of those contracts where the probable cost of the contracts can not be ascertained in advance with a reasonable accuracy.
2. These contracts are preferred when the cost of material and labour is not steady and the contract completion may take number of years.
3. The different costs to be included in the execution of the contract are mutually agreed, so that no dispute may rise in future in this respect. Under such type of contracts contractee is allowed to check or scrutinize the concerned books, documents and accounts.
4. Such a contract offers a fair to the contractee and also a seasonal profit to the contractor.
5. The contractor price here is ascertained by adding a fixed and mutually pre - decided component of profit to the total cost of the work.

Q.3 Discuss brief the principles to be followed while taking credit for profit on incomplete contracts. (2003,1999 - May)

Ans. Principal to be followed while taking credit for profit on incomplete contracts:-

The portion of profit, to be credited to, profit and loss account should depend on the stage of completion of the contract. This stage of completion of the contract should refer to the credited work only. For this purpose, uncertified work should not be considered as far as possible. For determining the credit for profit, all the incomplete contracts should be classified into the following four categories.

- (1) Contract less than 25% categories.
- (2) Contract between 25% and 50% complete.

- (3) Contracts between 50% and 90% complete
- (4) Contracts nearing completion, any between 90% and 100% complete.
- (a) **Contract less than 25% categories** : If the contract has just started or it is less than 25% complete, no profit should be taken into account.
- (b) **Contract between 25% and 50% complete** : In this case one third of the national profit reduced in the ratio of cash received to work certified, may be transferred to the profit and loss account. The amount of profit to be transferred to the profit and loss account may be determined by using the following formula:
- (c) **Contracts between 50% and 90% complete** : In this case, two third of the notion profit, reduced by the portion of cash received to work certified may be transferred to the profit and loss account. In this case the formula to be used is as under :
- $$\text{Or alternative} = \text{National profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{Work certified}}$$
- (d) **Contracts nearing completion, any between 90% and 100% complete** : When a contract is nearing completion or 90% or more work has been done on a contract. The amount of profit to be certified to profit and loss account may be determined by using any one of the following formula:
- $$\text{Estimated Profit} \times \frac{\text{Work certified}}{\text{Contract price}}$$

CHAPTER-12
PROCESS COSTING

➤ **What is Process Costing?**

Meaning of Process Costing

Process Costing is a method of costing under which the all costs are accumulated for each stage of production (also called process of production) and the cost per unit of product is ascertained at each stage of production by dividing the total cost of each process by the normal output of that process.

CIMA, London, defines process costing as "that form of operation costing which applies where standardized goods are produced."

Basic Features of Process Costing

- (a) The production is continuous
- (b) The product is homogenous
- (c) The processes are standardized
- (d) The output of one process becomes the input of another process
- (e) The output of the last process is transferred to Finished Stock Account
- (f) Costs are collected process wise
- (g) Cost per unit is calculated at the end of period by dividing the total process cost by the normal output produced

➤ **In which Industries Process Costing is applied**

Process Costing is applied in those industries where manufacturing activity is carried on continued by means of two or more processes and the output of one process becomes the input of the following process till completion. It is generally applied in :

- (a) Paper Industries
- (b) Chemicals Industries
- (c) Textiles Industries
- (d) Sugar Industries
- (e) Crude oil Refineries

Distinction between job costing and process costing

Job Costing differs from Process Costing in the following respects:

Basis of Distinction	Job Costing	Process Costing
1. Specific orders	Job is performed against specific orders	Production is continuous

2. Nature	Each job may be different	Product is homogenous and standardized
3. Cost centre	The cost centre is a job.	The cost centre is a process
4. Cost Ascertainment	Costs are collected and ascertained for each job separately	Cost are collected and ascertained for each process separately.
5. When cost are calculated?	Job costs are calculated only when a job is completed.	Process costs are calculated at the end of each period.
6. WIP	There may or may not be work-in-process	There is always some work in process because of continuous production.
7. Degree of control	Higher degree of control is required because of heterogeneous jobs.	Lower degree of control is required because of homogenous products and standardized process.
8. Transfer	There are usually no transfers from one job to another unless there is some surplus work.	The output of one process is transferred to another process as input.

The percentage of wastage in each case is computed on the basis of Number of units entering the process concerned.

The wastage of each process has a scrap value. The wastage of process A and B is sold at Rs. 1 per unit and that of process C at Rs.4 per unit.

Q.1 Explain briefly the procedure for valuation of work-in-process.

Ans. Definition of Cost Audit : It is defined as the verification of cost accounts and a check on the adherence of Cost Accounting plan. It in fact comprises of :

- (i) The verification of cost accounting records such as accuracy of the cost accounts, cost reports, cost statements, cost data, costing techniques.
- (ii) Examining cost accounting records to ensure that they adhere to the cost accounting principles, plans, procedures and objectives.

In other words, the Cost Auditor ensures that the cost accounting plan is in accordance with the objectives established by the management and in conformity with the appropriate system of cost accounting. Broadly, the purpose of cost audit can be classified as (i) Protective and (ii) Constructive.

Protective purpose : It examines that there is no undue wastage or losses and the costing system brings out the correct and realistic cost of production or processing.

Constructive purpose : It provides management with information useful in regulating production, choosing economical methods of operation, reducing operations costs and reformulating plants etc.

CHAPTER-13

JOINT PRODUCT / BY PRODUCT

➤ MEANING OF JOINT PRODUCT

Meaning of Joint Products

Joint Products represent two or more products of almost equal importance which are produced in natural proportions simultaneously from the same material in the same process. These products may be saleable without further processing or after further processing.

Features of Joint Products

- (a) Joint products are of **almost equal importance**. In other words, no single one of them can be regarded as the main product.
- (b) These are produced in **natural proportions**. In other words, proportion of such products can not be changed at the will of the management.
- (c) These are produced simultaneously **from the same material**.
- (d) These are produced simultaneously in the **same process**.

Examples of Joint Products

Industry	Job Product
(a) Oil refining	Gasoline, petrol, diesel, paraffin wax, coal tar, kerosene etc.
(b) Flour mill	White flour, brown flour, animal feeding stuff

➤ Meaning of co-products

Co-products represent two or more products which are contemporary but are not necessarily produced in natural proportions from the same material in the same process. *For example, wheat and grain produced in two separate farms with separate processing of cultivation. Similarly, timber boards made from different trees are co-products.*

Distinction between joint products and co-products

Joint products can be distinguished from co-products in the following respects:

Basis of distinction	Joint products	Co-products
(a) Proportion	These are produced in natural proportions which can not be changed by the management	These are not produced in natural proportion. Proportion of such products can be changed by the management.

(b) Material	These are produced from the same material.	These need not necessarily be produced from the same material.
(c) Process	These are produced simultaneously in the same process.	These need not necessarily be produced in the same process.
(d) Importance	These are of almost equal Importance	These need not necessarily be of equal importance.

By-Products

➤ **Meaning of By-Products**

By-Products are products of relatively small value which emerges incidentally in the course of manufacturing the main product.

Features of By-Products

- (a) By products are of relatively small value.
- (b) These emerge incidentally in the course of manufacturing the main product.

Examples of By-Products

Industry	Main Product	By-Products
1. Sugar	Sugar	Malasses, Bagasse
2. Cotton	Cotton	Cotton Seed
3. Rice Mill	Rice	Husk

Distinction between Joint Products and By-Products

Joint products differ from By-Products in the following respects:

Basis of Distinction	Joint Products	By-Products
1. Value	These are of almost equal Value	These are of relatively small value
2. Production	These are produced simultaneously	These emerge incidentally in the course of manufacturing the main product

Tutorial Notes :

- (i) The management may decide to treat all products produced as joint products or one product as main product and other products as By-Products

- (ii) The same product may be a joint product in one industry and a By-Products in another industry.

METHODS OF APPORTIONING JOINT COSTS OVER JOINT PRODUCTS

The various methods of apportioning joint costs over joint products are as follows:

- (1) Physical Unit Method
- (2) Average unit cost method
- (3) Survey method / point values method
- (4) Contribution margin method
- (5) Market value at separation point method
- (6) Market value after further processing method
- (7) Net realisable value method
- (8) Reverse cost method

- (1) **Physical unit method** : Joint costs are apportioned on the basis of physical volume of the joint products at the split off point. Any processing loss is also apportioned over the products on the same basis.
- (2) **Average unit cost method** : Joint costs are apportioned on the basis of average cost per unit which is obtained by dividing the total joint costs by total number of units of joint products produced.

Total Joint Costs

Average cost per unit **Total No. of Units of Joint Products**

- (3) **Survey / method / point values method** : Joint costs are apportioned on the basis of point values/ percentages assigned to the products according to their relative importance. The point values / percentage are based on the technical survey of all the factors affecting the production and distribution of joint products.
- (4) **Contribution margin method** :
 - (1) The variable portion of total joint cost is apportioned on the basis of physical volume of products produced ratio.
 - (2) The fixed portion of total joint cost is apportioned on the basis of contribution margin ratio.

Contribution margin is the difference between the total sales value and total variable cost.
- (5) **Market value at separating point method** : Joint costs are apportioned in the ratio of market value of joint products at the separation point.
- (6) **Market value after further processing method** : Joint costs are apportioned in the ratio of market value of the joint products after further processing.
- (7) **Net Realizable value method** : Joint costs are apportioned in the ratio of net realizable values of the joint products at the separation point. Net realizable value is computed as follows:

A Sales value after further processing	--
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B Less : Further processing costs	--
C Net realizable value (A-B)	--

(8) **Reverse cost method** : Joint costs are apportioned in the ratio of net values of the joint products at the separation point. Net value is computed as follows:

A Sales value after further processing	--
B Less Estimated profit	--
C Total cost of sales (A-B)	--
D Less : Selling and distribution expenses	--
E Total cost of goods sold (C-D)	--
F Less : Further Processing Costs	--
G Net Value (E-F)	--

Best of Luck